This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

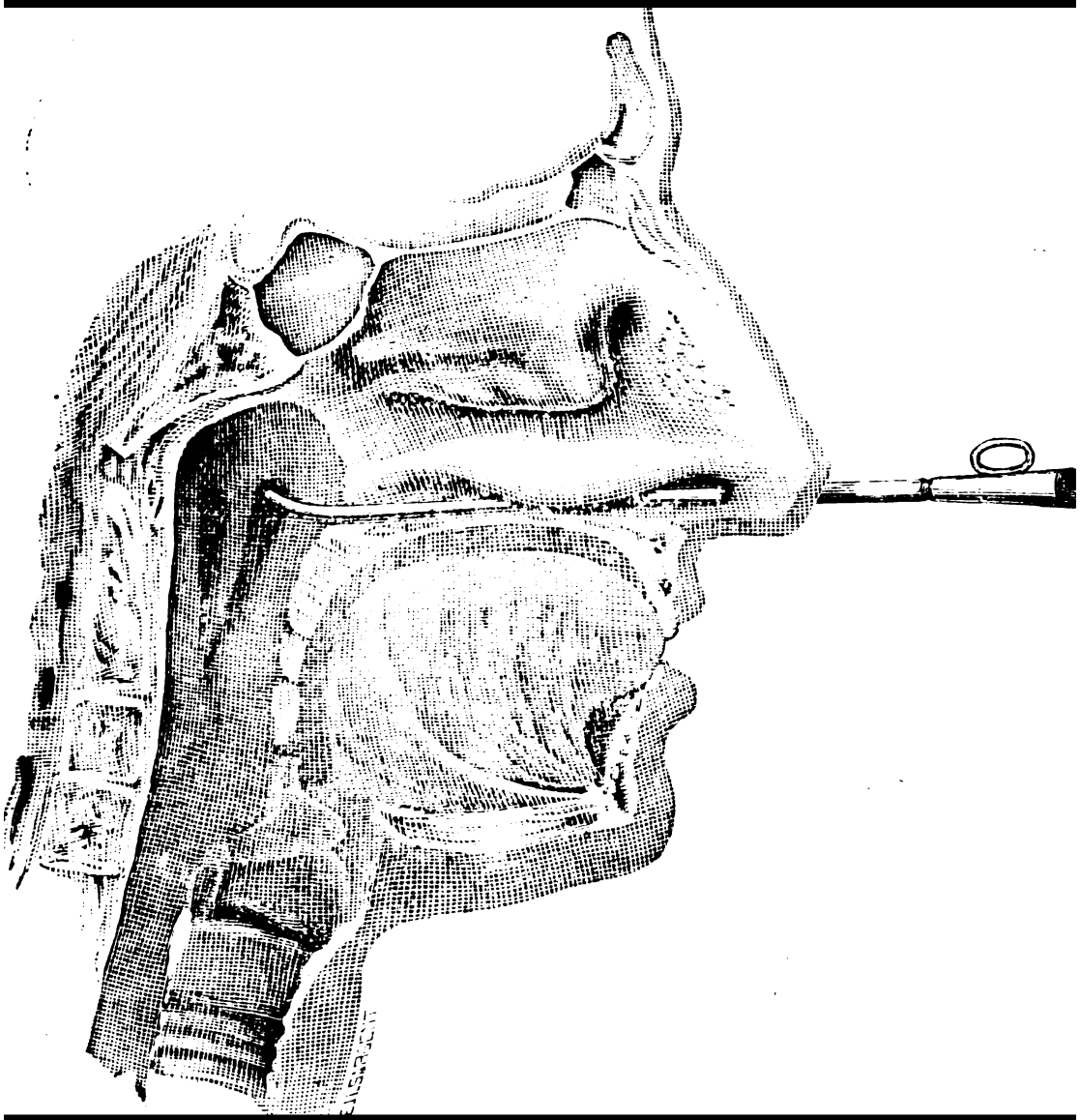
Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

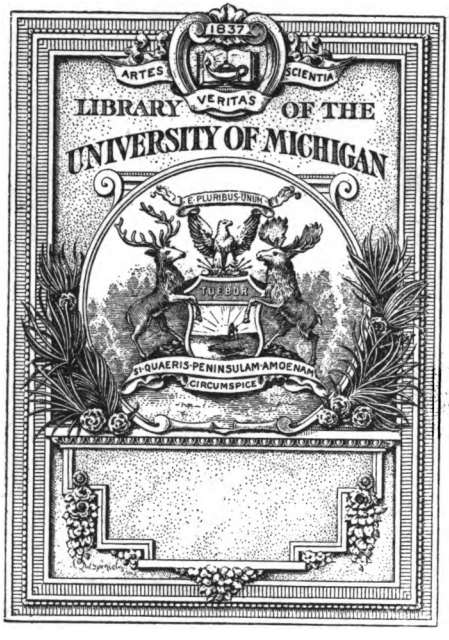


Transactions

Illinois State Medical Society

Digitized by Google

2
296 Sup



Digitized by Google

610.5
I3
S8t

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

TRANSACTIONS

OF THE

TWENTY-EIGHTH ANNIVERSARY MEETING

OF THE

ILLINOIS

State Medical Society,

HELD

IN THE CITY OF SPRINGFIELD,

MAY 21ST AND 22ND, 1878.

CHICAGO:
H. WILLSON & CO., PRINTERS.
1878.

Digitized by Google

Digitized by Google

CONTENTS.

PAGE

Delegates Present 6
Permanent Members Present 7
Record of Proceedings 9
Resolutions concerning the death of Dr. Crossly 14
Officers elected 14
Standing and Special Committees 15
Report of Committee on State Board of Health 17
Report of the Treasurer 20
Report of the Secretary 21
Delegates to the American Medical Association 22
" to other State Medical Societies 23
Address of Welcome by Dr. B. M. Griffith 24
Annual Address of President J. L. White 26
Report on Malaria, by N. Wright, M. D 42
Discussion on the Report on Malaria 47
Report on Practical Medicine, by C. W. Earle, M. D 49
" Exophthalmia Gortie " " 63
Discussion on the papers of Dr. Earle 74
Report on Obstetrics, by T. Davis Fitch, M. D 75
Laceration of the Cervix Uteri 86
Dr. Fitch's Speculum 94
" Obstetric Forceps 97
Tarnier's Forceps 100
Report on Puerperal Eclampsia, by E. R. Willard, M. D 102
Suggestion concerning Obstetric Practice by Ellen Ingersol, M. D 107
Report on Surgery, by Moses Gunn, M. D 112
Discussion on the Report on Surgery 126
Report on Diseases of Children, by C. C. Hunt, M. D 131
" Cholera Infantum, by L. M. Corr, M. D 137
" Croup, by H. Z Gill, M. D 139
" Drugs and Medicines, by N. S. Davis, M. D 180
" Electro-Therapeutics, by P. S. Hayes, M. D 186
" Sprague's Galvanometer, by D. Prince, M. D 196
" Ophthalmology, by E. L. Holmes, M. D 200
Cases by W. T. Montgomery, M. D 205
Report on Diseases of the Throat, &c., by J. P. Mathews, M. D 210
" Membrana Tympani, by S. O. Richey, M. D 219
Affections of the Lachrymal Apparatus, by S. J. Jones, M. D 225
Modification of the Anterior Splint, by R. Park, M. D 231
The Present State of Otology, by S. J. Jones, M. D 234
Auscultation for Small Fragments of Stone in the Bladder, by E. Andrews, M. D 254
Report of Committee on Revision 256
Constitution and By-Laws 258
List of Members 267

296.

182727

Digitized by Google

MEMBERS PRESENT.

DELEGATES.

L. L. LEEDS, M. D., . .	LINCOLN,	*Delegate*	*Brainard Dist. Med. Soc'y.*
JOHN H. HOLLISTER, . .	CHICAGO,	"	*Chicago Medical Society.*
A. H. KINNEAR, . .	METAMORA,	"	*Woodford Co. Med. Society.*
JAS. S. WHITMIRE, .	"	"	" " " "
W. M. CHAMBERS, .	CHARLESTON,	"	*Æsculapian M. S. of W. V.*
T. D. FITCH, ...	CHICAGO,	"	*Chicago Medical Society.*
R. G. BOGUE, ...	"	"	*Cook County Hospital.*
WM. T. MONTGOMERY,	"	"	*Chicago Medical Society.*
D. W. GRAHAM, . . .	"	"	" " "
M. A. FRAWLEY, .	SPRINGFIELD,	"	*Sangamon Co. Med. Soc'y.*
J. M. DIXON, . . .	"	"	" " " "
H. C. CRIST, . . .	BLOOMINGTON,	"	*McLean Co. Medical Soc'y.*
L. L. KERR, ...	EL PASO,	"	" " " "
J. F. TODD, ...	GALVA,	"	*Military Tract Med. Ass'n.*
N. B. CRAWFORD, . .	EUREKA,	"	*Woodford Co. Med. Society*
R. A. SAUNDERS, . .	GALESBURG,	"	*Military Tract Med. Ass'n.*
N. S. DAVIS.	CHICAGO,	"	*Chicago Medical Society.*
ELI BOWYER, ...	OLNEY,	"	*Richland County Med. Soc.*
J. BOWMAN, ...	FLORA,	"	*Clay Co. Centennial Med. S.*
DAVID PRINCE, .	JACKSONVILLE,	"	*Morgan Co. Med. Society.*
G. W. ALBIN, ...	NEOGA,	"	*Æsculapian Medical Soc'y.*
P. J. HERMANN, . .	RAYMOND,	"	*Montgomery Co. Med. Soc'y.*
C. GOODBRAKE, . . -	CLINTON,	"	*De Witt Co. Medical Soc'y.*
JOHN WRIGHT, . . .	"	"	" " " "
J. L. POLK, ...	ARCOLA,	"	*Æsculapian Med. Society.*
J. G. HARVEY, . .	GROVE CITY,	"	*Central Ill. Med. Society.*
THOS. J. PITNER,	JACKSONVILLE,	"	*Morgan Co. Med. Society.*
A. T. DARRAH, ...	TOLONO,	"	*Central Ill. Med. Society.*
F. M. CASAL, . . .	PITTSFIELD,	"	*Adams Co Medical Society.*
CHAS. W. SIBLEY, . .	FAIRFIELD,	"	*Wayne Co. Medical Society.*
W. M. JOHNSON, .	JOHNSONVILLE,	"	" " " "
A. T. STEELE, . . .	ASHMORE,	"	*Æsculapian Medical Soc'y.*
S. G. ARNOTT, ...		"	*Southern Ill. Med. Society.*
P. L. DIEFFENBACKER,	HAVANA,	"	*Brainard Dist. Med. Soc'y.*
J. W. NEWCOMER, . .	"	"	" " " "
J. R. LANE, . . .	CHESTERFIELD,	"	*Macoupin Co. Med. Society.*

Digitized by Google

S. T. CROW, . . .	CARROLLTON,	"	*Green Co. Medical Society.*
J. L. MILLION, . .	SPRINGFIELD,	"	*Logan Co. Medical Society.*
E. INGALLS, ...	CHICAGO,	"	*Chicago Medical Society.*
H. Z. GILL, . . .	JERSEYVILLE,	"	*Jersey Co. Medical Society.*
J. PERRIN JOHNSON, .	PEORIA,	"	*Queen City Medical Society.*
B. C. R. LUCAS, ...	"	"	" " " "
E. L. HOLMES, ...	CHICAGO,	"	*Chicago Medical Society.*
J. S. WILLIAMS, . .	OTTERVILLE,	"	*Jersey Co. Medical Society.*
CHAS. B. JOHNSON, . .	TOLONO,	"	*Champagne Co. Med. Soc'y.*
A. H. FOSTER, ...	CHICAGO,	"	*Chicago Medical Society.*
C. CHENOWETH, . . .	DECATUR,	"	*Dist. Med. Soc'y Central Ill.*
S. O. RICHEY, ...	CHICAGO,	"	*Chicago Medical Society.*
JOHN McLANE, . .	SYCAMORE,	"	*DeKalb Co. Medical Soc'y.*
T. B. MOORE, . . .	BELLVILLE,	"	*Southern Ill. Med. Society.*
C. W. EARLE, ...	CHICAGO,	"	*Chicago Medical Society.*
A. J. MILLER, ...	PARIS,	"	*Æsculapian Medical Soc'y*
N. B. YOUNG, . . .	MONMOUTH,	"	*Military Tract Med. Soc'y.*
J. C. KILGORE, . . .	"	"	" " " "
M. W. SEAMAN, ...	SHIPMAN,	"	*Macoupin Co. Med. Society.*
A. H. TAGERT, . . ,	CHICAGO,	"	*Chicago Medical Society.*

PERMANENT MEMBERS.

J. M. STEELE, - - - - - - - - - -	Grand View,	Edgar	County.
S. J. JONES, - - - - - - - - - - - -	Chicago,	Cook	"
B. M. GRIFFITH, - - - - - - - - -	Springfield,	Sangamon	"
G. H. RANCH. - - - - - - - - - - -	Chicago,	Cook	"
T. F. WORRELL, - - - - - - - - -	Bloomington,	McLean	"
T. L. WHITE, - - - - - - - - - - -	"	"	"
T. N. BOUE, - - - - - - - - - - - -	Loda,	Iroquois	"
P. H. BARTON, - - - - - - - - - -	Danville,	Vermillion	"
ELLEN INGERSOLL, - - - - - - - -	Canton,	Fu ton	"
G. M. CHAMBERLAIN, - - - - - - -	Chicago,	Cook	"
E. P. COOK, - - - - - - - - - - - -	Mendota,	La Salle	"
E. R. WILLARD, - . - - - - - - - - -	Willmington,	Will	"
W. W. McMANN, - - - - - - - - -	Gardner,	Grundy	"
D. T. DOUGLASS, - - - - - - - - -	Selma,	McLean	"
J. P. MATTHEWS, - - - - - - - -	Carlinville,	Macoupin	"
H. B. BUCK, - - - - - - - - - - - -	Springfield,	S ngamon	"
R. M. WILSON, - - - - - - - - - -	Lincoln,	Logan	"
T. D. WASHBURN, - - - - - - - - -	Hillsborough		
J. W. FINK, - - - - - - - - - - - -	"		
W. H. DEMING, - - - - - - - - - -	Pana,	Chester	"
R. W. CROTHERS, - - - - - - - -	Delavan,	Tazewell	"

Digitized by Google

F. B. HALLER,	Vandalia,	Fayette	County.
J. L. McKINNEY,	Barry,	Pike	"
*J. D. WHITBY,	Oakford,	Menard	"
*WM. GILLILAND,	Coatsworth,	Adams	"
*JOHN T. MYERS,	Petersburg,	Menard	"
JUSTIN TOWNSEND,	Springfield,	Sangamon	"
*WM. J. KIRK,	"	"	"
†CHARLES H. NORRED,	Lincoln,	Logan	"
W. C. MAXWELL,	Wesdale,	Champaign	"
R. BOAL,	Peoria,	Peoria	"
A. C. CORR,	Carlinville,	Macoupin	"
*M. A. FRAWLEY,	Springfield,	Sangamon	"
*WM. J. MAYNARD,	Chicago,	Cook	"
*E. E. PARKER,	Beardstown,	Cass	"
*F. L. MATHEWS,	Springfield,	Sangaman	"
*J. N. DIXON,	"	"	"
*R. S. LORD,	"	"	"
*C. H. NORRED,	Lincoln,	Logan	"
*J. R. JONES,	Lamoyle,	Bureau	"
*EDWIN MARTIN,	Canton,	Fulton	"
*J. L. CONNELLY,	Harriston,	Macon	"
*EDWIN SWISHER,	Canton,	Fulton	"
E. W. GRAY,	Bloomington,	McLean	"

*Elected. †By invitation.

Digitized by Google

ILLINOIS
STATE MEDICAL SOCIETY.

PROCEEDINGS OF THE TWENTY-EIGHTH ANNUAL MEETING, HELD IN SPRINGFIELD, ON THE 21ST and 22ND OF MAY, 1878.

The delegates and members of the Illinois State Medical Society assembled in regular annual session on the 21st day of May, 1878, in the Representatives' Hall at the capitol, in Springfield, and were called to order at 10 o'clock, A. M., by Dr. J. L. White, of Bloomington, President of the Society.

Prayer was offered by the Rev. Mr. Fullerton, and an address of welcome, in behalf of the Committee of Arrangements, was delivered by Dr. B. M. Griffith, Chairman of the Committee, and responded to by Dr. N. S. Davis, in behalf of the Society.

On motion, a copy of the address of Dr. Griffith was requested for publication in the transactions.

The list of Standing and Special Committees was called, and all reports and papers assigned to some special time for reading and discussion.

Dr. J. F. Todd called attention to the recent death of Dr. G. W. Crossley, of Princeton, and on motion of Dr. T. D. Fitch, the President was requested to appoint a committee of three to report suitable resolutions of respect for Dr. Crossley.

The President appointed Drs. J. F. Todd, T. D. Fitch, and T. F. Worrell such committee.

The President, Dr. J. L. White, then delivered his annual

Digitized by Google

address, which was listened to with much interest, and, on motion, referred to the Committee of Publication.

Governor Cullom, having come into the hall to listen to the President's address, was invited to the platform and introduced to the Society by the Vice President, Dr. E. P. Cook, of Mendota. The Governor responded in a brief and very appropriate address, in which he alluded to the establishment of the State Board of Health, and the operation of the law to regulate the practice of Medicine in this State. He stated that the doubts he had entertained at first, in regard to the propriety of enacting these measures, had been entirely removed by their practical operation thus far, and he should give them a cordial support.

This address was listened to with great interest and pleasure.

Dr. T. D. Washburn, of Hillsborough, then read a brief paper highly eulogizing the laws establishing the State Board of Health and regulating the practice of medicine in the State, which was received and referred to the Committee of Publication.

The Secretary received several propositions for permanent membership, which were referred to the Board of Censors, and Drs. T. D. Washburn and F. B. Haller were appointed to fill vacancies on said board.

Adjourned.

AFTERNOON SESSION.

The Society was called to order at 2:30 P. M., the President in the chair.

The Board of Censors reported, recommending the election of Drs. J. T. Myers of Petersburg, Wm. Gilliland of Coatsworth, and J. D. Whitly, of Oakford, as permanent members.

On motion, the report was accepted, and the persons named were elected.

Dr. T. D. Fitch, Chairman of the Committee on Revision of the Constitution and By-Laws, reported in full.

On motion of Dr. Hollister, the report was received and considered in sections, and, on motion of Dr. W. M. Cham-

Digitized by Google

bers, it was adopted as reported by the committee, and ordered printed both in the transactions and in pamphlet form. (See last article in this volume.)

On motion of Dr. J. H. Hollister, the Constitution and By-Laws, as just adopted, were ordered re-published in the transactions of the Society every third year.

On motion of Dr. T. D. Fitch, the new Constitution and By-Laws were declared to be operative and in force from and after the close of the present annual meeting of the Society.

Dr. D. Prince, of Jacksonville, read a short paper explaining a galvanometer for medical uses, and showed the instrument in operation before the Society.

On motion, the paper was referred to the Committee of Publication.

Dr. N. Wright, of Chatham, read a report on the influence of malaria, and the treatment of its effects on the human system, which was referred to the Committee of Publication.

A letter extending a cordial invitation to the Society to hold its next annual meeting at Lincoln, was read by the President, and referred to the Committee on Nominations.

Dr. T. D. Fitch, of Chicago, read the report of the Standing Committee on Obstetrics, the consideration of which was postponed to the opening of the morning session.

EVENING MEETING.

Tho Society, with many citizens, assembled in the evening, and listened to an interesting address on the Dark Ages, by Geo. A. Saunders, Esq., of Springfield; at the close of which a vote of thanks was tendered to the speaker.

WEDNESDAY MORNING SESSION.

The Society was called to order by the President at 9 o'clock A. M., and, on motion of Dr. W. M. Chambers, the delegates and members from each County were requested to select their representative to serve on the Nominating Committee, and report the same to the Secretary at 11 o'clock A. M.

The unfinished report of the Committee on Obstetrics was

Digitized by Google

taken up, and Dr. E. R. Willard, of Wilmington, read a paper on "Puerperal Eclampsia." Dr. Ellen Ingersoll, of Canton, also a member of the Committee, read a paper on "The matters most apt to be neglected in the management of ordinary labors." Dr. T. D. Fitch presented samples of obstetric forceps devised by Dr. Sawyer, of Chicago, and read a brief description of the same. Dr. Crow presented and explained a small wire forceps for the removal of the fœtus and placenta in abortions.

On motion of Dr. F. B. Haller, all the reports and papers from the members of the Committee on Obstetrics were referred to the Committee of Publication.

The Board of Censors recommended for election as permanent members the following:

W. G. Maynard, M. D., of Chicago; E. R. Parker, M. D., of Beardstown; F. L. Mathers, M. D., J. N. Dixon, M. D., M. A. Frawley, M. D., R. S. Lord, M. D., of Springfield; C. H. Norred, M. D., of Lincoln; J. R. Jones, M. D., of La-Moyle; Edwin Martin, M. D., of Canton; J. L. Connolly, M. D., of Harristown; and Edward Swisher, M. D., of Canton; all of whom were elected by unanimous vote.

After a recess of ten minutes, the Secretary announced the names of those selected to constitute the Committee on Nominations, as follows:

ROBERT BOAL, of Peoria	County.
C. GOODBRAKE, of DeWitt	"
W. M. CHAMBERS, of Coles	"
E. R. WILLARD, of Will	"
W. W. McMANN, of Grundy	"
G. W. ALBIN, of Cumberland	"
C. C. HUNT, of Lee	"
T. B. MOORE, of St. Clair	"
A. McFARLAND, of Morgan	"
J. L. POLK, of Douglass	"
SAMUEL MILEHAM, of Adams	"
J. M. STEELE, of Edgar	"
J. G. HARVEY, of Christian	"
S. G. ARNETT, of Randolph	"

Digitized by Google

T. J. HERMAN, of Montgomery County.
C. B. JOHNSON, of Champa'gn "
M. A. FRAWLEY, of Sangamon "
R. W. CROTHERS, of Tazewell "
J. C. KILGORE, of Warren "
J. J. REABURN, of Hancock "
N. S. REED, of Cass "
JOHN McLANE, of DeKalb "
J. T. MYERS, of Menard "
F. B HALLER, of Fayette "
P. L. DIEFENBACKER, of Mason "
E. P. COOK, of LaSalle "
C. CHENOWITH, of Macon "
T. D. FITCH, of Cook "
J. F. TODD, of Henry "
N. B. CRAWFORD, of Woodford "
G. W. JONES, of Vermillion "
J. T. CROW, of Greene "
W. M. KAULL, of Bureau "
A. H. VAN HORNE, of Jersey "
R. M. WILSON, of L gan "
M. W. SEAMAN, of Macoupin "
T. N. BOUE, of Iroquois "
T. F. WORRELL, of McLean "
H. MARTIN, of Fulton "

Dr. C. W. Earle of Chicago, read the report of the standing Committee on Practical Medicine, which was followed by an interesting discussion. On motion, the report was referred to the Committee of Publication, and will be found in the subsequent part of this volume, together with an abstract of the discussion concerning it.

Dr. J. H. Hollister of Chicago, Chairman of a Special Committee, appointed at the last annual meeting, made the following report:

'The Special Committee, appointed to prepare and issue a popular circular for general distribution; upon the subject of *Dietetics*, *Hygienics*, and *management of Children*, beg leave to report; after a careful consideration of the subject, that they deem it unwise to establish a precedent, which may be liable to abuse by scheming advertisers."

Respectfully submitted,
J. H. HOLLISTER.
E. INGALS.
C. W. EARLE.

On motion, the report was accepted and placed on file.

Digitized by Google

Dr. Moses Gunn of Chicago, Chairman of the Standing Committee on Surgery, read an interesting report, which was discussed by several members and referred to the Committee of Publication.

AFTERNOON SESSION, PRESIDENT WHITE IN THE CHAIR.

Dr. N. S. Davis of Chicago, Chairman of the Standing Committee on Drugs and Medicines, read a report which was referred to the Committee of Publication.

The Special Committee appointed to make suitable notice of the death of Dr. G. W. Crossley, reported as follows:

WHEREAS, We recognize in the death of our Professional Brother, Dr. G.W. Crossley, a serious loss to our Society and the Medical Profession; as a tribute of respect for his manly character

Resolved, That while we bow in humble submission to the afflictive dispensation, we are comforted with the knowledge, that he passed through the last great ordeal with the firmness and composure of a noble nature sustained by exalted Christian sentiments.

Resolved, That we cherish his memory for the uniform and gentle courtesies he constantly bestowed upon us during life, and for his unselfish and intelligent devotion to his profession.

Resolved, That his unsullied reputation and the purity of his life be ever held in our estimation as an example worthy of our respect and emulation.

Resolved: That we extend our earnest sympathy to his family and friends in their great bereavment.

Resolved, That a copy of these Resolutions be sent to the family of the deceased and offered for publication in the Princeton papers.

J. F. TODD.
T. DAVIS FITCH.
T. F. WORRELL.

On motion, the report was unanimously adopted.

Dr. T. F. Worrell, Chairman of the Committee on Nominations made the following report:

Your nominating committee after a pleasant and harmonious session, unanimously recommend the following gentlemen to fill the offices of the Society for the ensuing year.

For President—DR. E. P. COOK.

For Vice-Presidents. } DR. JAMES WHITMIRE.
" GEORGE WHEELER JONES,

Digitized by Google

For Treasurer—Dr. J. H. Hollister.
For Assistant Secretary—Dr. R. P. Wilson.
For place of Meeting—Lincoln.

For Committee of Arrangements.
- Dr. R. P. Wilson.
- " C. T. Wilbur.
- " L. L. Leeds.
- " P. L. Diefenbacker.
- " N. S. Read.

Committee on Practical Medicine.
- Dr. G. W. Jones.
- " J. T. Crow.
- " L. B. Moore.

For Committee on Surgery.
- Dr. John E. Owens.
- " H. H. Demming.
- " H. Z. Gill.

For Committee on Obstetrics.
- Dr. C. C. Hunt.
- " David S. Booth.
- " W. M. Kaul.

For Committee on Gynecology.
- Dr. T. D. Fitch.
- " P. L. Diefenbacker.
- " Norman Bridge.

For Committee on Ophthalmology and Otology.
- Dr. S. J. Jones.
- " J. Perrin Johnson.
- " H. B. Young.

For Committee on Drugs and Medicines
- Dr. J. F. Todd.
- " C. B. Johnson.
- " John Wright.

For Committee on Necrology.
- Dr. T. F. Worrell.
- " G. W. Albin.
- " E. Ingals.

For Members of the Judicial Council.

1 year.
- Dr. F. B. Haller.
- " E. Ingals.
- " P. M. Barton.

2 years.
- Dr. Robert Boal.
- " E. R. Willard,
- " A. T. Darrah.

3 years.
- Dr. T. D. Fitch.
- " C. Goodbrake.
- " N. S. Read.

SPECIAL COMMITTEES.

On Syphilis—Dr. W. M. Chambers.
On Psycological Medicine—Dr. A. McFarland.
On the Advancement of Physical Science—Dr. Sarah H. Stevenson.
On Croup—Dr. H. Z. Gill.

Digitized by Google

Dr. C. H. Norred will make a report on "the use of Hydrate of Chloral and Bromide of Ammonium in obstetric practice."

On motion of Dr. E. Ingals, the report was accepted and its recommendations adopted.

Dr. E. Ingals moved that a Committee of three be appointed by the President to report at the next annual meeting on the subject of Medical Education. The motion was adopted, and the President appointed as such Committee, Drs. E. Ingals of Chicago, R. G. Bogue of Chicago, and D. Prince of Jacksonville.

Dr. C. C. Hunt of Dixon, Chairman of the Committee on Diseases of Children, read a report on the general subject; and Dr. Lucinda H. Corr, a member of the same Committee, read a paper on Cholera Infantum and Summer Complaint.

On motion, both papers were referred to the Committee of Publication, without discussion.

Dr. J. S. Jewell of Chicago, Committee on Neurology, made a verbal report on the nature and treatment of Epilepsy, which elicited remarks from Drs. Prince and Buck. On motion of Dr. W. M. Chambers, a written copy of Dr. Jewell's report was requested for publication in the transactions.

Dr. H. Z. Gill of Jerseyville, Special Committee on Croup, read a very long report on that subject. On motion of Dr. E. Andrews, the report was received and its further consideration postponed until the evening session. The meeting then adjourned until 7.30 P. M.

EVENING SESSION.

The Society was called to order at 7.30 o'clock, P. M., by the President. The consideration of Dr. Gill's paper being in order, Dr. E. Ingals moved that it be referred to the Committee of Publication. On account of its unusual length and completeness, an amendment was offered, authorizing Dr. Gill to publish the report as a separate volume or monograph, requesting an abstract only for publication in the transactions

Digitized by Google

of the Society. After some discussion the amendment was adopted.

The report of Dr. Plym S. Hayes of Chicago, Committee on Electro-Therapeutics, was presented by Dr. C. W. Earle, and referred to the Committee of Publication.

Dr. S. J. Jones of Chicago, Committee on Otology, read a short report, which on motion of Dr. E. Ingals, was referred to the Committee of Publication.

Dr. E. L. Holmes of Chicago, Committee on Ophthalmology, read a short report, which was referred to Committee of Publication.

Dr. E. Andrews of Chicago, read a short paper on the Auscultation of fragments of Stone in the bladder, and presented an instrument which he had devised for that purpose.

On motion, the paper was received and referred to the Committee of Publication. Dr. Andrews, also presented a specimen of Dr. Hodge's Splint for dressing fractures, as modified by Dr. R. Park of Chicago; a description of which was referred to the Committee of Publication.

Dr. E. W. Gray of Bloomington, Chairman of the Committee on the establishment of a State Board of Health, made his final report as follows:

MR. PRESIDENT AND GENTLEMEN:—Two years ago in pursuance of a Resolution of this Society, a Committee was appointed to memorialize the Legislature on the subject of appointing a State Board of Health. At the time of the last meeting of this Society, the object contemplated in the appointment of the Committee had not been accomplished.

The memorial had been presented, and the subject was fairly before the Legislature, which was still in session with encouraging prospects of success as then reported by your Committee.

Under the circumstances the Committee were continued, and now they beg leave to report as follows:

On the 21st of May, 1877, just one year ago, the Legislature finally agreed to the organization of a State Board of Health, by the passage of an Act, which was promptly approved by the Governor, and with which you are all by this time familiar. On the same day, the Legislature finally agreed to the passage of an Act to regulate the practice of Medicine in this State, which was also approved by the Governor and became a law.

Digitized by Google

The latter of these laws imposed grave and difficult duties upon the Board of Health as now organized.

The following named gentlemen were appointed to constitute the Board, to-wit :

J. H. Rauch, M. D. H. Wardner, M. D.
W. M. Chambers, M. D. R. Ludlam, M. D.
A. L. Clark, M. D. Newton Bateman, LLD.
J M. Gregory, LLD.

These gentlemen are of such acknowledged ability and worth as to commend the propriety of their appointment to all parties, and if the several Schools of Medicine were not wholly satisfied, they all at least acquiesced in the arrangement, and for the good of the cause have yielded cheerful and hearty assent to it. It is with gratification and pride, that your Committee record the fact, that the Medical Profession of the State, as represented by this Society, though not granted even a pro-rata representation on the Board, and though the law imposed certain annoying and expensive duties upon them, nevertheless, with that disinterested benevolence and public spirit which characterizes the Medical Profession in all civilized countries, have come promptly forward to the support and vindication of the law, paying their money freely, not for any good which as individuals they expected to derive, but for the public good.

In the light of the experience of other States and Countries where Boards of Health have been organized, an where the effort has been systematically made to collect vital statistics and promote the public health, such improved forms of law and record have been adopted as will, we believe, eventually give our State a proud pre-eminence among other States of the Union.

The work of recording vital statistics and making returns, has been well begun in all the counties, excepting perhaps one, and is proceeding with unexpected promptness and regularity. The difficulties experienced in other States have not been realized in this, and with some unimportant amendments of the law which it will not be difficult to secure, and a larger app opriation which we doubt not will hereafter be granted, we may hope for the most gratifying success in accomplishing the benevole..t purposes sought by this Society, in relation to the collection of Statistics, the promotion of sanitary science and the public health.

All of which is respectfully submitted,

E. W. Gray, Chairman Committee.

On motion, the report was accepted and referred for publication, and the committee discharged.

Dr. S. O. Richey, of Chicago, read a paper on "Reparation of Imperfect Membrana Tympani," which was received and referred to the Committee of Publication.

Digitized by Google

Dr. J. P. Mathews, of Carlinville, Committee on Diseases of the Throat and Nasal Passages, read a report, which, on motion of Dr. Wm. M. Chambers, was referred for publication.

Dr. S. J. Jones, of Chicago, read a short paper on "Diseases of the Lachrymal Passages," which was accepted and referred to the Committee of Publication.

Dr. W. T. Montgomery, of Chicago, read an account of two cases of disease of the eyes, which was also received and referred to Publication Committee.

Dr. D. W. Graham, of Chicago, editor of the *Medical Register* for Chicago and Illinois, requested that the Society appoint a committee to aid him in preparing another edition of that work.

On motion, his request was granted, and the President appointed Drs. E. P. Cook of Mendota, F. B. Haller of Vandalia, and Wm. M. Chambers of Charleston, such committee.

The following communication was received from the Centennial Medical Society of Southern Illinois, and read by the Secretary:

At a regular meeting of the "Centennial Medical Society" of Southern Illinois, held May 8th and 9th, 1878, the following preamble and resolutions were adopted, and ordered to be laid before the State Society:

WHEREAS, The claims of Physicians in this State for attention during the last illness of their patients are placed in the fifth class, thus depreciating their services, while in many other States they are properly made first-class claims, thus recognizing the importance of the services and securing compensation in many cases that are denied and lost to the physicians of this State; and

WHEREAS, The practice in courts of justice in this State of calling physicians as experts, and requiring them to sit during the trial of cases and hear the examination of witnesses, and then give a professional opinion in regard to the testimony, often consuming much of their time without proper compensation; therefore

Resolved, That we, as members of the "Centennial Medical Society," call the attention of the members of the "Illinois State Medical Society" to the importance of taking such steps as in their wisdom they may think best calculated to procure a change in our statute recognizing the claims of physicians for last services rendered as first-class; and also providing

Digitized by Google

in the statute for the proper compensation of physicians for the time spent in courts of justice as experts.

ELI BOWYER, M. D.,
LOUIS J. J. SCHIFFERSTINE, M. D., } *Committee.*
N. S. MARSHALL, M. D.,

N. S. MARSHALL, *Sec'y.*

On motion, the communication was received and referred to a committee of three, to report at the next annual meeting of the Society. The President appointed as such committee Drs. Eli Bowyer, T. F. Worrell, and H. Z. Gill.

Dr. C. W. Earle, of Chicago, offered the following resolution, which was unanimously adopted:

Resolved, That the thanks of this Society are hereby tendered—

1st. To the Committee of Arrangements for the cordial manner in which the Society has been received;

2nd. To the Secretary of State, for the use of the Representatives' Hall for our meeting;

3rd. To the press of Springfield, fo the faithful and full reports of our proceedings.

4h. To the retiring President, Dr. J. L. White, for the dignified and impartial manner in which he has presided over our deliberations.

Dr. J. H. Hollister, Treasurer of the Society, presented the following annual report, which was accepted and ordered to be placed on file:

TREASURER'S ANNUAL REPORT.

The sixteenth annual report of the present Treasurer is herewith submitted for the current year:

JOHN H. HOLLISTER, *Treasurer*,

In acc't with ILLINOIS STATE MEDICAL SOCIETY, Dr.

1877.		
May 18.	To amount annual dues received at Chicago	$437 00
1878.		
May 21.	To collections during the year	247 00
	To receipts for the year	684 00

CONTRA.

1877.		
May 18.	Paid Treasurer for cash advanced	$62 73
" "	" Bliss & Barnes for printed envelopes	2 50
" "	" for postal cards	1 00
June 1.	Stamps for correspondence	12 00
" 12.	Postal cards, envelopes and stamps	5 00

Digitized by Google

July 6.	Reporting proceedings	45 00	
Aug. 20.	Cost 300 copies Transactions	385 00	
1878.			
May 21.	Mailing Transactions to date	32 00	
" "	Secretary's acc't for the year	6 00	
	Expenses for current year		—$551 03
" "	Balance in Treasury at date		$132 97

Respectfully submitted,
JOHN H. HOLLISTER, *Treasurer.*

The above statement of account of the Treasurer of the Illinois State Medical Society for the year ending May 21, 1878, has been verified and approved.

N. S. DAVIS,
Chairman Auditing Com.

The Secretary, in behalf of the Committee of Publication, presented the following report, which was accepted and ordered to be placed on file:

REPORT OF THE SECRETARY IN BEHALF OF THE COMMITTEE OF PUBLICATION.

In about sixty days after the adjournment of the last annual meeting of the Society, the record of proceedings and papers were placed in the hands of the printer, and the work was completed early in the season and delivered to the Treasurer for distribution to all members who had paid their dues. Three hundred copies were printed, of which seventy-five remain on hand. There are also on hand about fifty copies for each of the years 1875 and 1876.

Some of the papers presented to the Society in connection with the report on Practical Medicine, and referred to the Committee of Publication, were omitted on account of the imperfect condition of the manuscript. It would save some trouble to the Committee of Publication, and some expense to the Society, if the chairman of each standing committee was required to incorporate into one report all the facts and materials furnished him by other members of his committee, or by any other parties, instead of having a number of detached letters and papers presented, each of which might furnish one or more items worthy of being included in the report, and yet as separate papers occupying unnecessary space, and often including useless sentences. For the Publication Committee to reject such letters and short papers, contributed by associate members of a committee or by parties from whom facts had been solicited, would often exclude valuable facts and items, and to undertake to incorporate them properly would be to re-write the report of the standing committee. It is hoped that more attention will be given to this subject by all the regular committees.

Digitized by Google

The Secretary has furnished certificates to all the delegates appointed to represent this Society in other associations. He also early notified all the chairmen of committees of their appointment, and of the names and residences of their associates.

A proper notice of the time and place of the present annual meeting, with a list of the committees to report, was sent by the Secretary to the managing editor of the *Chicago Medical Journal and Examiner*, with the request that it should be published both in the April and May numbers, for the general information of the profession. For reasons known only to the managers of that periodical, the notice was never inserted nor its reception acknowledged. In consequence of this, a postal card simply announcing the time and place of meeting and the ratio of representation was mailed to nearly all the members.

That part of the duties of Secretary relating to the distribution of the Transactions to the members entitled to the same, has been kindly performed by the Treasurer, as he only has the correct list of those who have paid their dues; hence, most of the expenses for postage appear in the accounts of the Treasurer.

All of which is respectfully submitted. N. S. DAVIS,
CHICAGO, May 20th, 1878. *Per. Secretary.*

On motion, the Society proceeded to the election of Delegates to the American Medical Association, and to several State Medical Societies, as follows:

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

Dr. C. W. Earle, of Chicago.
" E. Andrews, of Chicago.
" R. G. Bogue, of Chicago.
" S. J. Jones, of Chicago.
" J. H. Hollister, of Chicago.
" F. B. Haller, of Vandalia.
" T. F. Worrell, Bloomington.
" J. L. White, Bloomington.
" G. W. Jones, Danville.
" W. M. Chambers, Charleston.
" A. K. VanHorne, Jerseyville.
" H. Z. Gill, Jerseyville.
" M. A. Frawley, Springfield.
" B. M Griffith, Springfield.
" Wm. Gilliland, Coatsworth.
Dr. A. C. Corr, Carlinville.
" S. Mileham, Camp Point.
" S. H. Birney, Urbana.
" C. T. Wilbur, Lincoln.
" J. F. Todd, Galva.
" P. L. Dieffenbacker, Havana.
" T.D. Washburn, Hillsborough
" T. J. Pitner, Jacksonville.
" J. S. Whitmire, Metamora.
" Eli Bowyer, Olney.
" R. Boal, Peoria.
" Ellen Ingersoll, Canton.
" C. V. Rockwell, Taylorville.
" N. B. Crawford, Eureka.
" J. P. Mathews, Carlinville.
Dr. A. J. Miller, Paris.

DELEGATE TO THE MICHIGAN STATE MEDICAL SOCIETY.

Dr. E. Andrews, of Chicago.

Digitized by Google

DELEGATES TO THE INDIANA STATE MEDICAL SOCIETY.

Dr. T. N. Boue, of Loda. Dr. G. W. Jones, of Danville.

DELEGATES TO THE MISSOURI STATE MEDICAL SOCIETY.

Dr. T. B. Moore, of Belleville. Dr. J. S. Williams, of Otterville.

DELEGATE TO THE IOWA STATE MEDICAL SOCIETY.

Dr. J. J. Reaburn, of Denver.

DELEGATES TO THE KENTUCKY STATE MEDICAL SOCIETY.

Dr. W. M. Chambers, Charleston. Dr. M. A. Frawley, Springfield.

On motion of Dr. Wm. M. Chambers, the Society then adjourned, to meet in Lincoln, on the third Tuesday in May, 1879.

N. S. DAVIS,
Per. Secretary of the Society.

Digitized by Google

ADDRESS OF WELCOME.

BY B. M. GRIFFITH, CHAIRMAN COMMITTEE OF ARRANGEMENTS.

Mr. President, Ladies and Gentlemen of the Illinois Medical Society:

One year ago, at the annual meeting of this Society, held in the city of Chicago, you were invited to meet in the city of Springfield in 1878. In behalf of the physicians of this city, and the Sangamon County Medical Society, it is my pleasure to give you cordial welcome.

A year's time has wrought many changes in the situation, and important events have occurred, not clearly forecast, to interest and occupy our people; many of these not directly in the pathway of our profession, yet so near it as to be of material interest to its members.

While our country has been at peace, other nations intimately allied to us have been deeply scourged by grim, actual war in its horrible progress, and to-day, at any hour, we may hear the unwelcome news that a more serious phase has transpired, which may throw all Europe into this bloody strife.

The State of Illinois has taken a new departure by attempted legislation to regulate the practice of medicine and legally compel those engaged in the profession to be qualified in the elements of the science. This step should be endorsed by the medical men of the State in proportion to the attainments the law requires, and the measures taken to enforce them.

The people should demand thorough education in the elementary branches of medical science, and our profession should furnish good schools to educate medical students, and see to it that none are granted the title of M. D. without

Digitized by Google

thorough preparation in the elementary principles of medical science. Let the possession of a diploma be evidence of knowledge.

The political economy of this country is passing through a critical financial trial, and parties, political and otherwise, are shaping their lines to secure the best results from the changes.

It yet remains to be seen whether the silver bill, the issue of four per cent. bonds, economy in government expenditures, the European war, and a rigid reform in the civil service, will be the efficient panacea so much desired to secure prosperity to our people.

While the Trades Unions, Nationals, Workingmen, Greenbackers, Hard-money men have infected all phases of Society, the physician has remained faithful to his self-imposed calling. There have been no strikes in the *ranks*, no eight hours for a day's work, no discounting his duties at the bedside of sick humanity, but persistent in his work, investigating the causes and character of diseases and providing a remedy to control them.

The doctor's life is not the royal road to wealth; his duties carry him along the rugged path of toil, whose goal is not always the mighty dollar. His time and energy spent in a different field of labor as assiduously and faithfully as in his profession, would often make him a prince of wealth in the land. The physician whose life record closes without a stain, who through his professional career maintains in the community a reputation for integrity, whose name is a synonym for truth and the right, is a public benefactor, and a profession wholly composed of such men would wield an irresistible influence for good, and win to itself the homage of the world.

Again I greet you.

I hope you will consider yourselves at home.

This beautiful hall, with its convenient appurtenances, has been opened by the Secretary of State for the use of this Society.

In *fair* weather Springfield is an attractive little city, and contains many places of interest, among which I might men-

Digitized by Google

tion her coal mines, rolling mill, watch factory, water works, and last, but not least, this magnificent State House.

Oak Ridge Cemetery is near by, in which lie entombed many of Springfield's dearest ties, among whom is our late beloved citizen and President, Abraham Lincoln. The monument built over his remains by a generous nation stands a beautiful tribute in memory of the man, and a credit to the impulses of his admirers.

In this magnificent State House you will find many places of interest. The Supreme Court room is a model of gorgeous elegance. It is the place where justice is meted out, and the blind goddess is ever ready with an even balance to do justice to all. But maybe you won't want to go there, for obvious reasons.

Well, there is the Treasury Department, where the money, bonds and treasure of the people are wont to be kept. But Treasurer Rutz will probably not want you there. Prof. Worthen, State Geologist, in his department has many interesting specimens, illustrating the fossils of this country and parts of Europe, and a few specimens of natural history, which I have the assurance he will take pleasure in showing you.

THE PRESIDENT'S ANNUAL ADDRESS.

J. L. WHITE, M. D.

Ladies and Gentlemen of the Illinois State Medical Society:

Shortly after you did me the honor to elect me your President, two events occurred which should mark an important era in the history of medical science in this State. I allude to the passage in our State Legislature of the Acts creating a State Board of Health, and what is known as the "Medical Practice Act." "Revolutions never go backward," and, although, these laws are not all we could desire, they are a step in the right direction. Learning from what I conceived to be

Digitized by Google

good authority, that the Governor had it in contemplation to appoint upon the Board seven Physicians, three of whom were to be regular Practitioners, I called upon him, and as President of the Society, presented our claims to a fuller recognition upon the Board. I was kindly and courteously received, and a disposition was shown to do what might be done that would give satisfaction to the profession throughout the State, and comply with the several requisitions of the laws; at the same time I was informed that in his judgment no one particular School of Medicine should have a majority upon the Board, and led me to infer that a similar opinion had been expressed to him by a *large* number of the members of the Legislature. The Board as finally constituted, as you are aware, consists of three regular Physicians, one Homœopath, one Eclectic and two non-medical gentlemen. Whether the appointment of the two last was in accordance with the spirit and intent of the laws is a question for a profession other than ours to pass upon. It would seem that the great interests entrusted to a Board of Health, belong, of right, to a profession, which for centuries has been considered by all civilized nations as eminently qualified to watch over and protect the public interests in this regard. I have taken some pains to ascertain the make-up of Boards of Health in other States, and I do not learn of any in which other than the regular practice is represented, though in all from which I have heard, (eight), the Board is made up in part of non-medical men. The state of the public mind rendering a Board of Health, such as ours a necessity, if we are to have any, seems to me a matter demanding our serious consideration, and I propose briefly to call your attention to the reasons as viewed from my stand point, and to suggest such remedies as occur to my mind.

There is a tendency, not only among the people but in the profession to discard, as far as possible, the use of Drugs. With the mass there naturally arises an opposition to whatever is unpleasant or unpalatable, an opposition in itself commendable, provided it is not indulged in to the neglect of a manifest duty. So many plausible arguments are adduced to show

Digitized by Google

that in the matter of medication, the refusal to take what is distasteful is no neglect of duty, that we can hardly wonder that Homœopathy and other kindred practices offering as remedies, agents pleasing rather than otherwise, to the palate, should find followers and admirers even among people of refinement and culture. It is in this class that we find the human race the most keenly alive to whatever affords either pleasure or pain. The penalty for the highest civilization and culture is an increased capacity for suffering, and the recompense, a keener enjoyment and appreciation of pleasure. It is, therefore, no matter of surprise that such should take some chances for the sake of avoiding the disagreeable; still, it does seem passing strange when they adopt the irrational. The profession, while perhaps it is losing none of its confidence in medication, is learning to confide more in the powers of nature. To Homœopathy is due the credit of proving to the world that a great majority of acute diseases will, unaided, so far as medication is concerned, terminate favorably. In other words, that the natural tendency of disease is to recovery. A few years ago a Physician of some celebrity, in Roxbury, Mass., published in the *Boston Medical and Surgical Journal*, an account of a series of cases as they occurred in general practice, treated entirely without medicine and with most happy results. Drugs, when clearly indicated, are given as confidently as ever, but they are not as universally employed as formerly whenever the physician is called to the bed-side of the sick. Professional thought is directed, much more than it was a few years ago to the prevention of disease, and it requires no prophet's eye to see that it is in this direction, that the coming physician is to win his laurels. This speaks well for the fraternity, and should convince people that other motives than simply the accumulation of worldly wealth inspire its labors. These motives are the incentive to the organization of Boards of Health all over our land, and impel us to submit to unreasonable requirements and unnatural associations, rather than falter in efforts so grand in their purpose as the reducing to its minimum the sickness, suffering and death in our proud and beloved State. People,

Digitized by Google

even though upon other questions educated, judge of a method of medical practice by what they see and hear of its results, and are not easily persuaded to change their minds by any logic. It may almost be called an axiom, that what one believes without reason he cannot be reasoned out of; argument and sound logic in all such cases are thrown away. It is verily, "casting pearls before swine." All such persons must be convinced of their error, either by a similar line of thought to the one which led to its adoption, or else must be so educated by a long course of study that it will be an impossibility for them to adhere to a manifest wrong or absurdity. One great trouble is and has ever been, too much in a curative way, is and has been expected of medicine. Whenever unreasonable expectations exist, disappointments are sure to occur and loss of confidence is the inevitable result. The remedies known as specifics are few in number, and of them we know but little more than did our fathers before us; they can be counted upon the fingers, and except those which by their action destroy parasitic life, we hardly know how they accomplish results fully recognized. We must, I think, admit that medicine as an art has not kept pace with medicine as a science, and yet, when rightly viewed, this is no argument against legitimate practice, but is perhaps one reason why so many have departed from the faith of the fathers and wandered about from one ism to another, following every *ignis fatuus* in their search for the wonderful and impossible. The great mass of the people do not understand what the duties of the physician are, or, what ought to be expected of him; neither do they understand that there are limits to the power of medicine. The list of self-limited diseases is constantly on the increase, and the list of incurable ones does not, to say the least, diminish. The truth, though not new, is constantly becoming more apparent, that nature, not medicine, is the curer of disease. It has been truly and beautifully said that "in the fecundated germ there exists a plastic force, which presides over its development and determines the shape and texture of every organ during the life-time of the being. This same

Digitized by Google

force is constantly in action maintaining the organism and tending to bring it back to its normal condition when this has been perverted by accidental injury or morbid agents." To remove obstacles in the way of this force and to render the surroundings as favorable as possible for its action, is a large part of the physicians duty and yet how few people have any appreciation of this truth. They can easily understand that the duty of the Surgeon is to maintain in apposition the fractured ends of a bone while nature effects the union; but they seem to have no conception of the fact that, in a large majority of cases, the Physician in the treatment of disease, can not pass similar limits, and hence become dissatisfied if a miracle is not performed. Cursing their true friends they fall an easy prey to the designing pretender, and are ever after ready by word, act and vote to bar the way to true medical progress, considering, perhaps honestly, that all sanitary regulations are but parts of a grand system of humbuggery, created for some sinister purpose, and calculated to rob the masses, either of their hard-earned wealth, or, of some God given rights and privileges. To overcome the opposition that arises from this and kindred sources, I see nothing which promises so much as the general diffusion of sanitary knowledge among the people. How best to accomplish this is worthy serious thought; to my mind we have to look to that hope of our Country, the common school, and to that most powerful of all agents, the press, for the assistance necessary to make all see and know the right. This accomplished, no one need fear the result. In questions involving the public weal belonging especially to either of the liberal professions, so-called, the others ought to be natural allies; but I think the facts would hardly bear me out in stating that they are such. One can hardly pick up the advertisements of any nostrum without seeing appended thereto the certificates of Reverend gentlemen, and fortunate is the Practitioner with whose patients they do not interfere. The lawyers feel kindly toward us, but are perfectly willing we should fight our own battles and not infrequently exhibit an indifference to the result of the conflict. The introduction of Anatomy, Physiology and Hy-

Digitized by Google

giene into our common schools, I hail as a good omen for the future of State Medicine and regular, legitimate practice. A sufficient amount of knowledge will be acquired by the scholar to make him comprehend the difference between the true Student and Practitioner of Medicine, and the usurper of the medical title. He will also learn that to successfully pilot the sick over the tempestuous ocean of disease, guarding against all possible perils, knowing the duties of all hands and seeing that they are properly performed, requires the study and devotion of a lifetime. He will appreciate the labors of the Physician, and be ever ready to do his part as a good citizen, to prevent sickness, suffering and death in the State.

In influencing those now upon the stage of action, the press has almost unlimited power, and, if the editors throughout the State could be induced to ascertain for themselves the good work that is being accomplished elsewhere, we should find them with us almost without exception. The highest representatives of the press are found, as a rule, fully up to the most advanced ideas in all the professions. When we consider the vast number of newspapers that are daily read, we may realize the impossibility of over estimating the influence they exert. The Statistics of 1870, show there were in the United States at that time 5,871 newspapers with an annual issue of 1,508 millions. It is now estimated the annual issue exceeds two thousand millions. "Every honorable effort should be made to turn an instrument of such unexampled power to the best account in all enterprises worthy of men's best efforts." There is another reason for the present condition of things to be found in the lack of scientific attainments and professional acumen in our own ranks, due to insufficient scholarship before entering upon the study of medicine. I mention this for the sake of adding whatever I may, to the efforts being made by leading Schools and Physicians, to prevent the next generation from suffering in a similar manner. Time should never be wasted in grieving over errors of the past, they should never be called to mind except as may be necessary to guard against their occurrence in the future. The young lady or gentleman

Digitized by Google

who is prepared to enter upon the study of medicine, to grasp its scientific principles and to be prepared for other than a routine or empirical practice, without that mental discipline acquired by a systematic course of mathematical and classical study, is an exception to the general rule. Permit me, therefore, to urge upon you the importance of admitting none as students to your offices who have not acquired habits of application, and so thoroughly learned the art of study as to enable them successfully to cope with the difficulties which *must* be overcome, ere anyone can become a thoroughly scientific Physician. The right to turn out of your office an incompetent Practitioner, even though he may pass the examination of the schools, is one you must surrender for the sake of the honor of the profession as a whole, even as an individual is frequently called upon to give up certain personal rights for the good of the Society of which he is a member. The time was when the demand for doctors was greater than the supply, and what might be called the taking up of the practice was, perhaps, justifiable; but, for Illinois that day has passed, and every year adds to the knowledge necessarily to be acquired, if the Practitioner would take honorable rank among his contemporaries and at the same time acquire a competence from his practice. He must be familiar with the severe methods of reasoning and observation which belong to modern science, or he cannot be properly disciplined for the investigation of individual cases that come before him, and for the solution of the problems they present. The crowning glory of modern medicine is a correctness of diagnosis, such as was wholly unattainable a few years ago, before physiology and pathology were as well understood as at present, and before the microscope had revealed to us so many and such important truths. To accomplish this requires as a condition precedent, in all but exceptional cases, that the mind shall have had a long continued training, and that there shall be the power to perfectly concentrate the thoughts upon the subject in hand to the exclusion of all else—a power vouchsafed to but few, except at the expense of time and severe but intelligent drill.

Digitized by Google

In a country like ours where all are striving after the almighty dollar, and especially in times of financial trouble, such as we are now passing through, we find a large class of persons with over-taxed brains suffering from a great variety of ailments symptomatic of nervous prostration. We find also another class, having diseases the result of vicious or unhealthy habits, and of living in direct violation to the most well-known hygenic laws, and who, unmindful of the fact, that if you would have an effect to cease you must first remove the cause, are laboring under the delusive idea that some medicine oughtto be found that would *cure* them, and who go from one physician to another, and from one school of medicine to another, and who, as might have been anticipated receive no permanent benefit from any, until finally in a fit of desperation they go away to some water cure or place of invalid resort, where changing entirely their habits of life, and being freed from the cause which produced the disease and made life burdensome, they rapidly improve and in due time return to their homes inimical to medicine and ready to discourage all efforts for the advancement of sanitary science, believing that all schools of medicine are alike unworthy of patronage. To realize the extent of this feeling, one has but to visit such a place as Hot Springs and listen for a while to the conversation at invalid places of rendezvous. The reason of this element of opposition is mainly the one to which I first alluded, viz: the universal idea that medicine, not nature, cures. For this idea the people are not to blame; who, then, is? There can be but one answer to this question, and that is, ourselves. When such patients come to us, our manifest duty is boldly to tell them that without a removal of the cause they will not recover from their ailments. As a result some will leave and seek advice elsewhere; but the dignity of the profession will be maintained and the respect of all conversant with the facts will be assured. Even the dissatisfied patient will admit that the physician, in the grand performance of his duty sacrificed present emolument upon the alter of scientific truth. He may rail at the God of Nature whose laws he has violated, but he

Digitized by Google

will not be likely to oppose legal enactments calculated to enhance medical science and prevent disease. In some sense, misery may love company, but as a rule a sufferer would compel others to avoid the pitfall in which he was entrapped. In our cities and larger towns, the almost universal practice of the members of this society is to write prescriptions, instead of dispensing the medicinal agents employed. This is not the rule with practitioners of other schools. While for myself I would dislike very much to supply my patients with the medicine I would have them take, I believe many are induced to try other methods of practice for this reason. They argue that in many instances the druggist's bills are too burdensome to be borne, and that they are obliged to run the gauntlet of two or more liabilities to mistake, instead of one. The argument that a physician is more likely to write for just what he thinks the most appropiate for the case, than he would be to take the trouble to dispense it himself, however just and well-founded, has no weight with a large majority of the people. While there are many who would be indifferent to the cost of filling a prescription, there are many others, and, probably a majority who think about it with more or less anxiety. It behooves us, therefore, always to bear this in mind. Sickness in any family is at best a burden and it is the province of the true physician to make that burden, in every respect, as light as possible. If the reasons I have adduced, why the legislature of our State, representing as I believe it does, the sentiments of the people, would only create a Board of Health upon the condition, or with the understanding that one-idea systems of medicine should be represented upon it are correct, though they may not be the only ones, it is useless and beneath our dignity to complain for ourselves or the noble profession we represent. It only remains for us to accept gracefully the condition of things as we find it; to educate the people so that they may know more of the true function of the physician, and more of what is to be and what is not to be expected of medicine; to teach them the great blessiugs that surely flow from obeying the laws of health, and the futility of all medication

Digitized by Google

when those laws are persistently violated; to elevate the standard of knowledge in our profession, so that to be a doctor is to be a man entitled to the respect and confidence of the community in which he lives; to consult the palates of our patients, calling to our aid the knowledge of the chemist to furnish us with medicines in as concentrated and pleasant a form to the taste, as possible; to simplify the list of remedies and render it as inexpensive as may be; to use our best efforts to do away with the fear many entertain in regard to druggists by encouraging those only who have received a thorough pharmaceutical education, and are known to be careful and correct. Inasmuch as there is no pharmaceutical association in this State, it might be well to invite some of the leading pharmacists to a seat in our conventions, and to a participation in the discussion of all questions where mutual interests are involved. And, finally, it remains for us to yield to the laws as they are, our unconditional support, even though they be unsatisfactory to us. These things being done, it will not be long ere this Society can say to the legislature if necessary: "The good of the people you represent requires a certain sanitary law, and because their good requires it, good statesmanship demands it," with the assurance that it will be placed upon our statue books unhampered by humiliating conditions.

Arrangements have been made for a sanitary survey of the State, with a view to agricultural and sanitary drainage. In his opinion, these arrangements can not be carried out without an especial appropriation for that purpose.

To the Board of Health, one and all, this Society is under obligations for the faithful manner in which they have discharged the duties of their office. Much valuable statistical information is being obtained, and the foundation for practical results is being well established. In their capacity as the executive officers of the "Medical Practice Act," the result of their labors has been very manifest. Their examinations have been rigid and thorough, and can not fail to have a decided effect in elevating the professional standard. A large per centage of those examined failed to procure certificates, and a

Digitized by Google

number of empirics have been driven from our State to more congenial fields of labor.

By the politeness of Dr. Rauch, President, I am able to furnish the following figures:

The Board have examined	352 applicants.	
Certificates were issued to	136	
Leaving of those who did not pass	216	
They have issued certificates to physicians in Cook County		640
To physicians throughout the State		3,680
Which, with the number examined to whom certificates were issued		136
Makes		4,456
Issued to midwives, certificates		75
Sum total of all certificates		4,531

From the best information he can obtain, there have either quit practice or left the State since the law became operative, 1,100.

In starting a new enterprise of this magnitude, it would be strange if some mistakes were not made. I regret that the Board has not made and circulated throughout the State a report showing what it has done, and what are its purposes and prospects. Unless especial effort is made, I fear there is some danger that no sufficient appropriation will be made for suitably carrying on the work, at the next session of the Legislature.

I cannot but express my regrets that Dr. E. W. Gray found it necessary to resign his position as Secretary of the Board. To his efforts in a great measure is due what legislation we have upon this subject. A knowledge of his worth and an intimate personal acquaintance of some years make me feel justified in referring to his untiring zeal and unrewarded labor in the cause of State medicine. Conscientious, active and intelligent, his labors cannot well be dispensed with until the law rests upon a more secure foundation.

It would be superfluous for me to offer you arguments in favor of legal medicine. The day for such has passed; but there occurs occasionally to every one some circumstance in corroboration of established facts. A few weeks ago I had occasion to examine the children in the Soldiers' Orphans'

Digitized by Google

Home, of this State, with reference to vaccination. There were at the time in the Institution 312 children between the ages of three and fourteen. Gathered together as they are from nearly every county in the State, they may be supposed to be fair representatives of children of the same age throughout the State. From this number I found 142 upon whose arms not a trace of a vaccine scar was to be seen. Oh, ye shades of Jenner! there is need that ye re-visit the scenes of your former labor.

Probably no one within the sound of my voice has ever spent a winter in this State that would compare with the past one either as to its thermometric or hygrometric conditions. During its whole term the air was rife with prognostications of sickness, and yet Illinois never saw a more healthy winter. To a board of health properly belongs the labor of securing a record of all the facts for future reference, and from it who can doubt the gleaning of useful lessons?

The amount of rainfall has forcibly impressed upon the minds of the people the great necessity there is for a general system of drainage in some portions of the State, in order to increase the productiveness of the soil and render the highways more passable. Compulsory drainage would, I think, be favorably entertained by a majority of the people, for other reasons than the true one which should lead to its adoption, viz.: the improved sanitary condition sure to inure to the dwellers upon the drained sections. The average legislator can hardly fail to see the wisdom of legislation requiring the expenditure of a small amount of money, if thereby the productive wealth of the State may be materially enhanced. I would respectfully suggest to the Board that now is the favorable time to move in this direction.

The last volume of our Transactions has been made the subject of very severe criticism. That much of it was merited I feel convinced, but I differ very materially with the critic in regard to conclusions reached. His idea seems to be, it would be better to do away entirely with committee reports, and depend upon volunteer essays. He says: "We do not admire

Digitized by Google

a system of constrained labor, anywhere; and we further believe, that when applied to literary efforts, it becomes a nuisance. Put a physician who has never had any ambition for writing essays, at the head of a standing committee, and he feels himself constrained to show his 'appreciation of the honor conferred upon him;' he will go into labor and deliver himself of a few pages of grammatical blunders, and general absurdities, dished up under the guise of a committee report."

Ladies and Gentlemen, there are, scattered throughout the length and breadth of our beautiful State, men who from a quarter to half a century have practiced our profession with credit to it, and honor to themselves; men who are ever welcomed in the homes of their patrons as kind benefactors and loving friends. These men have labored industriously in the profession, but their work has been, of necessity, practical in its kind. Probably it is safe to say one-third of their whole time has been spent in the buggy or saddle.

The lamented Dr. Perry, of Jerseyville, a Scotchman by birth, and one of Nature's noblemen, once said to a neighbor who wished to borrow his buggy, "Na na, mon, dinna ye ken that a doctor's buggy is his hoose." As these men ride from one patient to another, the case last seen, or the one next *to* be, is studied over in the mind, and a theory and method of practice are evolved independent of the books, and not infrequently, superior to what is found in them. They are compelled to depend on medical journals for their professional reading, to a great extent, because they cannot find time for much else, and very frequently there is so much of sifting and winnowing to do, in order to the separating of the wheat from the chaff, that a man is sometimes provoked to asking himself if the average medical journal does not do as much harm as good.

The writers in the medical periodicals of to-day, are not as a rule, men of the largest practical experience. A few well-authenticated facts have upset many fine spun theories, and the time has passed when practical experience is to be considered of no avail and ignored, because, perchance, the recital of

Digitized by Google

it is not couched in the classic language of a Sumner or an Everett. The greatest readers are not the greatest discoverers. Those truths that have burst upon the world to gladden its great heart and lessen the burden of labor and suffering, have been the children of thought. The men who are constantly upon the alert, watching things as they are, and asking of everything the why and the wherefore, are those who find the keys to the Arcadia of nature.

Advancement in medical science is coming to us, in a great measure, through a more accurate knowledge of the peculiarities and specific properties of the various diseases we are called upon to treat, which knowledge is to be obtained from clinical observation, and not from the reading of books. Dr. L. P. Yandell, Jr., says: "It is my belief that from the sick, and not from the laboratory, from experimental therapeutics and not from the microscope, our practical medical knowledge is to come." To this I cannot give my entire assent, but it has in it a great deal of truth.

All who have reached middle age realize how great is the difference between life's idealities and its realities. In none of the callings pursued by man is that difference greater than in ours. The student when listening to a lecture upon any given disease, or to a lecture descriptive of some surgical operation, considers himself prepared to meet the one or perform the other; but, when brought face to face with either, if possessed with common-sense, he realizes the glorious uncertainties attaching to a science which, in its nature, cannot be classed among the exact. Moreover, he realizes how inseparable must be a knowledge of both science and art to the make up of the skillful physician or surgeon. Neither can be independent of the other, and the skilled in one must ever eagerly seek from the skilled in the other, and be ever ready to throw the broad mantle of charity over any defects, criticising kindly, when at all with the thought uppermost in his mind, that possibly he himself may be the subject of merited criticism. Great truths not unfrequently emanate from the most unlooked-for sources. From the despised city of Nazareth came *the* great

Digitized by Google

blessing of the world. Rich gems have been dragged forth, sparkling in resplendent beauty, from the very roughest of covering. It is possible that from the pens of country doctors the refined and scholarly critic may, if he will, gather some drops of wisdom. There are many men abundantly qualified to impart real instruction who do not write essays, except when impelled so to do from a sense of duty, because they know full well that time and disuse have robbed them of their cunning in this direction. Hence it is, that many a man has gone to his grave unhonored and with his virtues unsung, who had in him that, which under other circumstances, would have been given to the public and placed his name high upon the roll of fame, by the side of those whose memories we delight to honor.

The great mind of what might be called the student class of our profession, is improved by friction with what in contradistinction, I will call the working class, and *vice versa*. Neither class by itself is equal to the task of supplying all the food for thought required by the healthy mind of both. Between the two, it is earnestly to be hoped no germ of discord may be found to exist. A first appreciation of what is good in any individual member of the profession, on the part of all others brought in contact, is necessary to the true grandeur of the profession as a whole. Without this appreciation we are in danger of being cursed with caste, which, all history proves, brings ruin to any nation, state, city or society where it once obtains a foothold. The peculiarity of American civilization is that it teaches the equality of all. Here, as nowhere else, all men stand upon the same level. A full recognition of perfect brotherhood in the profession is alike ennobling to a Gross, or a Davis, and the humblest practitioner, who by the stern decrees of poverty, feels compelled to swing his shingle to the breeze at some obscure cross-roads.

A committee was appointed at our last meeting to consider the propriety of some change in our programme. It seems to me it would be well to have two reports upon the various branches on which there have been heretofore regular standing

Digitized by Google

committees; one of these to give an epitome of the literature of the year, garnered from every possible source, and the other to give the practical experience of the reporter and his professional friends; and if such a paper should contain some grammatical errors, the Publication Committee will have a duty to perform in making the necessary corrections.

One year ago a feeling of gloom hung over the Society. All realized there was a vacant place. One of the most prominent and beloved members of the Society had been called to pass through the gates of death and enter upon the untried realities of another world. His presence and his words of counsel we still shall miss; but time, with its all-soothing influences, reconciles us to the inevitable, and with the thought that our loss has been his gain, we cease to mourn, and rather cherish his memory as a precious gift bequeathed, spurring us on to greater professional devotion. So far as I can learn, the Committee on Necrology have no sad duty to perform at this session. Our ranks for the year have been unbroken. In view of this great blessing, let us not deprive ourselves of that sense of satisfaction engendered by emotions of gratitude and thankfulness.

Assembled as we are in a city made famous by the remains resting within her limits of one who fell a martyr to his country, and whose memory the whole civilized world reveres, and with all around evincing the grandeur of Illinois and tending to remind us of the proud position she occupies in the sisterhood of States, it is to be hoped we may go from this session of our Society inspired not only with fresh zeal in the performance of our professional duties, but also with a renewed sense of the obligations we are under to discharge faithfully the duties of citizenship, and with a feeling of gratitude that our lines have fallen in such pleasant places.

And now, ladies and gentlemen, thanking you for electing me to the highest office in your gift, I enter upon its more active duties with some misgivings, craving your indulgence for such errors as I am very likely inadvertently to make, and wishing you may one and all derive both pleasure and profit

Digitized by Google

from your pilgrimage to this beautiful city, possessing, as it does, so many attractions, and refreshing the memory with the brilliant achievements of so many of Illinois honored dead.

REPORT ON MALARIA.

BY NEHEMIAH WRIGHT, A. M. M. D.

Mr. President, Ladies and Gentlemen of the Society:

At my own request, two years ago, I was appointed to make a special report upon Malaria, in which some views peculiar to myself as to the pathology and treatment of malarial diseases, particularly of intermittents, both of simple and malignant form, should be introduced to the attention of the profession. Last year I did not feel justified in making this report, as I had not at that time cases to report sufficient to warrant me in asking you to try my treatment for these diseases; but since then I have had numerous cases, both simple and malignant, or, as some call them, "congestive chills."

I do not propose in this report to enter into any lengthy or learned dissertation upon the so often settled yet still returning question of "what is malaria?" Sufficient for me and my purpose to deal with its manifestations in a large share of diseases we are called upon to treat in general practice in this State, and introduce to your notice what to me is a new course of treatment, or at least a new application of old remedies in the treatment of these diseases.

There seems to be, we cannot say why, a peculiar predilection for some diseases to choose some peculiar tissue or soil for their field of operations and injury. Rheumatism selects the fibrous tissue for its field of operations; scarlatina, the skin and throat; rubeola, the mucous surfaces and lungs; syphilis, the glandular system. So we may say every germ of disease (for there can be no such thing in nature as spontaneous generation of disease any more than of animals or plants) seizes

Digitized by Google

upon its own peculiar soil for its propagation, and malarial poisons, or the germs of malarial disease, have theirs.

We have a rigor or chill more or less profound, a cold spell longer or shorter, succeeded by a reaction more or less intense. Then follows the sweating stage, more or less profuse. These are the phenomena of an ordinary intermittent. In the malignant, a cold spell is prolonged without reaction, with local and general congestion, succeeded by collapse and death. We have intense thirst, a severe sense of oppression about the precordia, sometimes hurried and at other times impeded respiration, severe pains in the back and loins, a fullness and often tenderness over the epigastric region, together with the spleen and liver, and almost total suspension of urinary secretion, nausea and vomiting, often severe pains in the bowels, sometimes accompanied by diarrhœa and hemorrhage. The pulse is feeble and almost suspended at first, or during the cold stage. Should reaction come on, we have an almost complete suspension of all the secretions, and effete matter of the system is left uneliminated. The whole body seems poisoned, and the vital forces are staggering under an enormous load. Cachexia, effusions, jaundice are but few of the many manifestations of the poison.

But why do I enumerate to you, who

"Have sought the path where treads the pallid angel pain,
And by your skill have poured the balm, bid the sufferer smile again."

It is for this reason: that the more common or frequent the occurrence, the less noted, and I wish to call your attention to these phenomena, and you will at once see what is at fault. The vital powers or forces of *organic life* are impaired; those operations presided over by the ganglionic nerves are almost overwhelmed, and perform their functions very imperfectly, if at all. A paresis of these nerves, particularly of those of the epigastric or solar plexus, from which are derived the gastric, hepatic, splenic, renal and mesenteric plexuses, and a consequent impairment of function, is, I believe, the result of malarial poisoning, and all the phenomena we behold in miasmatic

Digitized by Google

diseases can be readily traced to *mal* or non-performed function of these nerves. Overwhelmed by this poison, whatever it may be, the system, with that wonderful power for recuperation, provided she has a fair chance and is given a rest, will rally once more.

Some years since, when called to see a case of intermittent, I conceived the idea of giving a hypodermic injection of sulphate of morphine for temporary relief, and then to meet the other indications as they might arise. The patient was in the cold stage, and, to my surprise, in a few minutes the cold spell was gone. No fever, and the sweating stage was at once established.

A great many cases have since been treated in like manner and with similar result. We can safely promise our patients in the cold stage, that they shall have little or no fever, and in a few minutes be comparatively easy instead of having to endure the chill, and then for hours to burn with fever, rage with thirst, rave with delirium, as we have been obliged to in times past; just simply have an injection of morphine, hypodermically administered, and we are comparatively well, at least for that paroxysm. It is equally efficacious if we administer it in the hot stage and soon produces the desired perspiration. But does it cure? It does for that time, and the succeeding chill must then be anticipated. This I do by the ordinary remedy, sulphate of quinine by the usual doses of three to five grains at intervals of three hours, commencing so as to have taken four doses, the last dose two hours before the expected chill. I place but little reliance in the curative properties of quinine, but I find it the only anti-periodic thus far. Then I prescribe:

℞ Sulphate Quinine, - ʒ i.
Ferri redacti, - - - ʒ ss.
Strychnine, grs. - - i to ij.

M. F. Pill No. 60.

S. One pill three times a day 'till all are taken.

I give the strychnine to cure the paresis of the nerves, the iron to fill up the blood with the red corpuscles that are almost annihilated by even a single chill, and the quinine as a simple

Digitized by Google

tonic for the stomach to induce an appetite and promote digestion.

If it be a case of chronic intermittence, I give in addition ascetate of potash freely diluted in water. One to two drachms per diem in one-half or one pint of water. This, for the purpose of eliminating by the kidneys the broken down debris that can only be eliminated by them through the urine. If the bowels are constipated and the liver inactive, I am in the habit of prescribing:

℞ Podophyllin resina, - grs. x.
Pulv. Rhei., - - - ʒ i.
Ext. Nux. Vomica, - grs. v.

M. f. pill No. 30.

S. One pill at night, and another in the morning, *p. r. n.*

Of course a good nourishing diet should be prescribed as nature demands it in nearly every case after the patient is started on the road to health. The injection I have been in the habit of using is Magendie's solution of sulphate of morphine, two grains to the drachm of water; and from eight to twelve minims have been the usual dose. I have usually administered it in the arm above the elbow.

Case 1. Was called at 3 P. M. to see Mrs. R., 65 years of age; had a chill two days ago; had one to-day, about 9 o'clock A. M. profuse diarrhoea; pulse hardly perceptible; tossing and moaning; very thirsty; some vomiting; great oppression about the precordia, and difficulty of breathing. Gave hypodermic injection; applied a large mustard sinapism over the epigastrium, with heat and friction to the extremities. In a few minutes she seemed much relieved, and soon a warm perspiration came on; ordered fifteen grains of quinine, with three of capsicum in four doses during the night. The black pills, (strychnine, iron and quinine) for three weeks, a rapid and complete recovery and no return of chills.

Case 2. Was called at night to see Mrs. V., aged 50 years; had what they called a "Congestive Chill" on her for some hours; hands, feet and extremities were cramped; cold and shrunken fingers; cool breath, and a very marked and pecu-

Digitized by Google

liar voice, (vox cholerica,) and very much general distress. I at once gave a hypodermic injection, applied warmth and frictions, and she was soon relieved. I spoke of returning home as she seemed to be resting easy and asleep; they would not consent, for one so very sick as she had been could not, it seemed to them, be so quickly relieved and have it permanent. I remained till morning; my patient awoke and said she felt almost well. Subsequent treatment was quinine to prevent the next chill, followed with the strychnine, iron and quinine pills for thirty days; no return and a great improvement in her general health.

Case 3. Was called to see Mr. C., had had a chill, and was suffering with Dyspnœa, the cold stage was past, but he was so distressed for breath; gave hypodermic injection, and in five minutes he seemed almost well; then gave the usual treatment of quinine to prevent the next chill, with strychnine, iron and quinine pills to complete the cure.

Case 4. Was called to see Mr. H., had had two malignant chills, and was in the third one when I was called; had been under the care of another doctor, and said he was full of quinine. I could find no pulse, a very hurried respiration, distressed looking countenance, and seemed to be in Articulo mortis. I had no hypodermic, the distance was too far and the case too urgent to wait.

I took a quart glass, used for a flower vase, ornamental but quite useful, improvised a cupping-glass of it, which I applied to the epigastrium; he made a bound almost from the bed. When the cup came in contact with him, my finger was on the pulse, or where it should have been; the moment the cup touched the skin, the pulse made a start. As one application had done so much good, I renewed it again and again; reaction soon came on,—there was no return of the chill. I gave the usual quinine, iron and strychnine pills.

I attribute the success of the treatment in this case, to the shock that the immense cup produced upon the solar plexus, thus removing the paresia that had affected the ganglionic

Digitized by Google

nerves. His recovery was rapid and the only one I ever saw recover from the third chill.

These cases will be sufficient to illustrate my treatment for the malarial diseases; I might give many more from my note book, but these will suffice.

RESUME.

1. Intermittents are caused by some undetermined poison, that produces paresis of the ganglionic nerves of the solar plexus.

2. That hypodermic injections of Magendie's, solution of sulphate of morphia, in proper doses, cures for the time being that paroxysm, whether it be in the cold stage, or subsequent hot one.

3. That strychnine is the curative by its antagonism to the local paresis of the ganglionic nerves, aided by sinapisms, and in alarming cases by large cups applied directly over the epigastric region.

4. A good nourishing diet, with proper medicines for eliminating the broken down matters from the system by the kidneys, bowels, and skin.

When the reading of the paper was finished—

Dr. Davis remarked that he noticed nothing novel or peculiar in the views of the writer, except the importance attached to the giving of hypodermic injections of morphine to relieve the chill or cold stage of an ordinary paroxysm of ague. While such practice might be judicious and highly beneficial in those rare cases of true congestive or pernicious intermittents characterized by great distress and almost constant vomiting, it was certainly not necessary in ordinary cases. There is too much risk in the use of morphine hypodermically to justify a resort to it for the mere purpose of relieving symptoms that will disappear spontaneously in from thirty to sixty minutes. Too many lives have been sacrificed already by the extremely rapid and exaggerated effects of morphine and other active medicines, used hypodermically. He therefore protested against anything like a general resort to this mode of medication for the relief of anything so brief as the cold stage of an ordinary intermittent.

Dr. Chambers stated that he had occasionally resorted to hypodermic injections of morphine in the cold stage of severe congestive intermittents for fifteen years past, and with excellent effects. He agreed with

Digitized by Google

Dr. Davis that the remedy should be used in that manner with the greatest caution, and only in the severe cases.

Dr. Haller inquired of the author of the paper whether he had ever used the sulphate of atropia hypodermically for the same purposes; and, receiving a negative answer, stated that he had done so with good results.

Dr. Worrell expressed surprise that neither the author of the paper nor any of the gentlemen who had spoken had alluded to the use of arsenic as a remedy for intermittent fever. He regarded arsenic as a valuable specific, not so prompt, perhaps, as quinine, but much more reliable for the permanent cure of the disease. He said, further, that for some years past intermittent fever had almost disappeared from Bloomington and its vicinity, and had been superseded by neuralgias and pulmonary consumption.

Dr. Bowyer said that about twenty-five years since, upon the suggestion of Dr. Davis, he had adopted the use of strychnine in the treatment of malarious fevers, and had continued to use it, in connection with other remedies, up to the present time, and with much benefit. He had used arsenic, but thought strychnine more certainly beneficial, especially in cases presenting much prostration of the nervous and digestive functions. Both, when judiciously used, were valuable as prophylactics for preventing relapses, but he preferred the strychnine, combined with some bitter vegetable tonic.

Dr. Haller had lived many years in a malarious district, and regarded the subject under discussion as one of great importance. He had never used morphine hypodermically in the cold stage of intermittents, but had often given large doses of bromide of potassium, as much safer, and had found it to afford much relief to the suffering patient, and sometimes to cut short the paroxysm. As a prophylactic he preferred strychnine to arsenic, although he had used both. He commended Dr. Wright's suggestion in regard to the use of podophyllin, saying that he had often used it in cases of chronic ague, with strychnine, in the proportion of one-thirtieth of a grain of the latter to one-sixteenth of the former, continuing it for four or five weeks, and procuring permanent interruption of the paroxysms.

Dr. Bowman suggested that when strychnine was prescribed in the form of pills, great caution should be exercised in compounding them, to insure equal division.

Drs. Sibley and **Williams** recommended the use of the cinchonidia as nearly equal in efficiency, and very much cheaper than quinine.

Dr. Mathews stated that in his part of the State (Macoupin county), they had much less of chills and fever than ten or fifteen years ago, and a great deal more of periodical neuralgia. In the former he had not used arsenic, but in the latter he had exhibited it in nearly all the cases, beginning with small doses, and gradually increasing them until the disease was interrupted. As a prophylactic he had used atropia with decided benefit.

Digitized by Google

Dr. Cook suggested that the doses of morphine to be used hypodermically, as stated in the paper of Dr. Wright, ought not to be published by the Society unless accompanied by some special caution to the reader. The dose stated in the paper was *two-fifths* of a grain for a single hypodermic injection. It is well known that in several instances smaller doses than this had produced very dangerous, if not fatal, effects.

Dr. Hollister stated that he had recently met with an unusual number of cases of periodical neuralgia, in the form of *tic douloureux*, which he regarded as of malarious origin. The cases were generally soon interrupted by a dose of three grains of quinine with one-sixteenth of a grain of morphine, repeated every three hours.

Dr. Griffith stated that for two years past but few cases of ordinary intermittent fever had occurred in Springfield and its vicinity, but such neuralgias as described by Dr. Hollister had been of frequent occurrence. He had found the hydrate of chloral most efficient in relieving the paroxysms, and quinine given in the stage of intermission, to prevent their recurrence.

REPORT ON PRACTICAL MEDICINE.

BY CHARLES W. EARLE, M. D.,

PROF. DISEASES OF CHILDREN, WOMAN'S MEDICAL COLLEGE, CHICAGO.

Mr. President, Ladies and Gentlemen of the Illinois State Medical Society:—

Your Constitution directs that the committee of which I have the honor to be chairman, shall prepare an annual report, embracing the important improvements in the management of individual diseases, the progress of epidemics, and the character of prevailing diseases, &c., &c., in this State.

To present a report which would conform with this regulation, I divided the State into three sections, and requested my two associates to assist in the effort.

Doctor Booth, of Sparta, was asked to take the southern, and Dr. Pitner, of Jacksonville, the central section. These gentlemen, as will be seen from the following extracts from letters of reply, were unable to contribute to the report:

Digitized by Google

SPARTA, ILL., MARCH 12, 1878.

PROF. C. W. EARLE, Chicago, Ills.

Dear Sir:—Your communication of March ninth, received and contents duly considered.

At the January meeting of the Southern Illinois Medical Association, I presented and read a lengthy paper, in reply to one against the use of instruments in midwifery. The preparation of this paper consumed much of my time. I was highly honored by being elected to its Presidency, which will add somewhat to my labor for the year, as the Association owns and controls a Journal, and it will be expected that I contribute to its columns.

I have often thought of my obligation and duty to the State Association, but would defer the commencement of the paper, from day to day, until your letter came as a reminder that not one line had been written.

The time is so short, and my health at this time so poor, that I doubt my ability to prepare a paper for the next meeting of the State Society.

Very respectfully,

DAVID S. BOOTH, M.D.

JACKSONVILLE, ILL., MARCH 20, 1878.

C. W. EARLE, M. D., Chicago.

My Dear Doctor:—I regret to say that I find it will be impracticable to undertake the work you have kindly designated for me.

I am already responsible for some extra duties, enough to take all my time and strength for the next three months outside my practice.

I regret this the more from having failed, from protracted illness, to make any contribution to the report on *materia medica*, two years ago. I hope this will not be the case again should the Society again place me on a committee. Thanking you for your consideration, I am

Very truly yours,

T. J. PITNER, M. D.

What has been done, then, owing to ill health and previous engagements of the other members of the committee, has devolved upon me, and any imperfections the report may contain, I hope will be excused, when the difficulties attendant upon the collection of reports from such a large State are taken into consideration.

We have one hundred and two counties; only sixty-two however, are represented in the Society. Postal cards of inquiry were sent to every county; to members of this or some other society, when possible. It was found, however,

Digitized by Google

that in a number of counties, no medical society of any description existed, and it was with great difficulty that I obtained the name of a physician to whom I could address a circular. Is it not possible that some scheme may be devised, by which we can interest a larger number of physicians in our State? Cannot this Society be made a society represented by one hundred and two counties, and not sixty-two?

I have received answers to thirty circulars, and, as representing the prevailing diseases and epidemics, with other general information of great interest, I make the following abstracts:

Northern Illinois Reports.

LAKE COUNTY,
Dr. O. T. Maxon, Reporter.

Practice of medicine in our county has presented no special or marked cases of interest; and during the last twelve months we have been blessed with unusual good health.

In the early part of 1877, we had a scourge of diphtheria, most of the deaths occurring being from diphtheritic croup. Of this class nearly all died; I know of but one exception. It occurred in my own practice, and was treated with Salicylic Acid and Lactate of Iron; a current of lime water steam also seemed of value.

LEE COUNTY,
Dr. C. C. Hunt, Reporter.

We have had a little of almost everything and not much of anything. Whooping cough has been epidemic, in the treatment of which, Belladonna, *a la Trousseau*, has seemed almost a specific.

LASALLE COUNTY,
Dr. E. P. Cook, Reporter.

The Summer and Autumn of 1877, as well as the Winter and Spring of 1878, were characterized by equal temperature; neither extremes of heat or cold, drouth, or rain-fall excessive, until April, since when rain has fallen in exceedingly large quantities. With this peculiar weather, and contrary to the expectation of people in general, we have been remarkably free from serious disease.

Digitized by Google

The old adage "That a green Christmas makes a fat grave-yard," has not been fulfilled, and it is a fact sustained by general observation that the mild and uniform temperature of January, February, March and April, was very favorable for nearly all pulmonary complaints; and that nearly all the advantages gained by this class of invalids by a residence south, during winter months, has been enjoyed in northern homes. The mildness of the Winter and Spring has very decidedly lessened the usual mortality among the aged, and many a one will enjoy the breezes and genial sunshine of the coming Summer, whose vital stores would not have been sufficient to have carried them through the cold and sudden changes of our average Winter. In medical moralizing from this, we may deduct the importance of heat and cold as factors in the production of disease.

The epidemic of scarlet fever which prevailed in some parts of our county, during last October, November and December, has almost or quite disappeared, and we now are having greater exemption from it than at any time for three or four years. Nothing new in regard to treatment.

WINNEBAGO COUNTY,
DR. W. H. FITCH, Reporter.

Prevailing diseases—typhoid and scarlet fevers, and diphtheria. We have had scarlatina constantly for about two years; any indication that we are coming to be a large and flourishing city like Chicago?

The only thing different in regard to treatment of typh id, is the introduction of cold baths, by some of the profession. Our rate of mortality seems to diminish under its use.

JO DAVIESS COUNTY,
DR. B. F. CRUMMER, Reporter.

I think we have had less than our usual amount of sickness, although we have had about our share of pneumonia.

Among acute diseases, typhoid fever is quite prevalent, especially from August to December. The disease seems to affect the farming community as much, and perhaps to a greater extent, than those living in villages; the reason of which I believe to be, an utter disregard of all drainage, and in many instances, the close proximity of h rse sheds and barn-yards, with their wells and cisterns.

Malarial troubles have been almost unknown, at least none have originated in the county during the year.

A mild epidemic of scarlatina and diphtheria prevailed during the early part of 1877, and a few isolated cases since, but no epidemic.

Digitized by Google

COOK COUNTY--CHICAGO.

COMPILED FROM REPORTS OF BOARD OF HEALTH.

The comparison of deaths from diseases which swell our mortality list is readily seen in the following table:

DISEASES.	NO. OF DEATHS IN 1876.	NO. OF DEATHS IN 1877.	
Bronchitis	189	182	Less.
Cholera Infantum	732	530	Less.
Croup	276	190	Less.
Convulsions	907	818	Less.
Diphtheria	464	333	Less.
Inanition	258	249	Less.
Meningitis (different forms)	337	315	Less.
Old age	191	169	Less.
Phthisis Pulmonalis	732	733	.....
Pneumonia	334	313	Less.
Whooping Cough	133	52	Less.
Malarial Fevers	11	13	Increase.

Comparing the months of November and December, 1876, and of January, February, March and April, 1877, with the corresponding ones of 1877 and 1878, the effect of the peculiar weather is readily seen:

DISEASES.	1876		1877.				TOTAL.	1877		1878.				TOTAL.	
	Nov....	Dec....	Jan....	Feb....	March..	April..		Nov....	Dec....	Jan....	Feb....	March..	April..		
Bronchitis	13	19	17	17	30	21	117	18	22	41	31	36	38	186	Increase.
Croup	37	34	26	22	8	14	141	24	26	18	24	11	20	123	Less.
Phthisis	61	51	62	56	82	71	383	53	56	49	54	78	60	350	Less.
Pneumonia	29	42	34	36	37	38	216	24	30	40	35	46	48	223	Increase.
" Typhoid	3	3	5	3	2	2	18	5	5	2	3	..	2	17	Less.
Whooping Cough	3	1	..	1	1	3	9	2	7	9	14	19	..	51	Increase.
Convulsions	61	77	72	61	46	76	393	48	51	68	55	68	47	337	Less.
Meningitis	15	34	32	28	25	29	163	15	19	24	25	26	31	140	Less.
Diphtheria	75	44	56	31	21	17	244	43	31	25	18	16	14	147	Less.
Inanition	20	22	12	14	16	21	105	13	14	25	13	18	14	97	Less.
Old age	16	15	24	13	15	12	95	16	17	13	13	16	9	84	Less.
Malarial Fever	3	1	..	3	..	..	7	..	1	2	3	3	5	14	Increase.
Typhoid Fever	15	11	7	9	11	2	55	20	8	6	10	9	9	62	Slight increase.
Small Pox	..	..	..	..	1	3	4	5	8	7	5	2	..	27	Slight epidemic.

BOONE COUNTY,

DR. D. E. FOOTE, Reporter.

Our county has been remarkably free from epidemics during the past year, and the weather during the winter just closed has been uniformly mild. Rain has been abundant, and the air filled with moisture, has produced, I think, a little more neuralgia and rheumatism than usual.

Digitized by Google

OGLE COUNTY,
DR. DANIEL LICHTY, Reporter.

Diseases prevailing in this county are largely malarial. Rock River traverses the county diagonally from the north-east to south-west, intersecting five of its central townships, making almost the entire county a basin of this river. Its tributaries are large and numerous, but draining abruptly, not by ma shes, give a soil fertile and vast in resources. The north-east part of the county is the highest point between Chicago and the Mississippi River. Timber belts exist along the streams, and in some cases arrest the malarial wave; in others, by preventing the entrance of the sun's rays, favor decomposition and malaria.

Epidemics of cerebro spinal meningitis prevailed in '74 and '75. Opium and calabar bean exert most controlling influence in this disease.

Epidemics of diphtheria occurred in connection with cerebro spinal meningitis and scarlatina; also at the same time erysipelas and puerperal fever existed, some remarkable instances occurring where the diseases seemed interchangeable and dependent upon the same specific poison, but developing different symptoms according to the tissues attacked. In child-bed women, the poison was absorbed through this source; in children the cutaneous irritation indicated that nature was trying to rid itself of the materies morbii through this channel; soon it would attack the meninges of spinal cord and brain, the patient succumbing to death in 12, 24 or 36 hours. In others, where one or two of these diseases had a habitation in a household another would be taken with erysipelas, and so on. I had thought of reporting some of these cases, but time stole away the thought and the inclination, and only when my thoughts are directed towards them by inquiry or research do they again come so vividly before me that I could write pages on the subject.

CENTRAL ILLINOIS REPORTS.

CHAMPAIGN COUNTY,
DR. S. H. BIRNEY, Reporter.

It was believed that the unusual amount of rain, in connection with the very mild winter which we have had in this section, would ere this have developed some grave form of disease, but contrary to expectation no one disease has prevailed to a very noticeable extent in this county during the past year, and so far as I can learn, at no time during a period of ten years has a more general variety of diseases been met with than in the year just passed.

During the winter months, remittent fever, rheumatism, bronchitis and scarlet fever have been most common, and I think carefully recorded sta-

Digitized by Google

tistics would show that these diseases, as regards frequency, have occurred in about the order in which they are given.

Respecting epidemics, sporadic cases of diphtheria have quite frequently been reported from different parts of the county, but not until as late as the latter part of January was there developed that which could properly be regarded as assuming all the phases of an epidemic. Beginning at the above time and continuing on through the months of February and March, scarlet fever has prevailed epidemically to a considerable extent in Champaign and suburbs. The peculiarity, if any existed, was the rapid termination of several cases, some dying in twelve and others in twenty-four hours after the inception of the malady. Very recently three children died in one family, within twenty-four hours after taking the disease.

VERMILLION COUNTY,
DR. G. WHEELER JONES, Reporter.

We have had our usual quota of endemic disorders, malarial, rheumatics, summer complaints, obstetrics, local affections of all kinds, etc., etc. Owing to the peculiarity of our population and topography, the variety of diseases to be seen here is very large, and during the fall and spring everything is complicated with malarial exhibits. During the past winter we have had a good deal of rheumatism, and this spring much more neuralgia than usual. Pneumonia has also been quite common the past few months. I have practiced here some thirteen years, and have yet to meet my first case of "scabies"—old-fashioned itch, which fact I attribute to the atmosphere being surcharged with sulphur from the coal mined and burned in our midst. I would like to have this thought investigated, if you have the opportunity.

Light epidemics of pertussis, rubeola, influenza, scarlatina, Methodism, Presbyterianism, and temperance have prevailed. The three latter, being under the influence of the laws of moral sanitation, have been productive of a certain amount of benefit; still, they have not as yet resulted in any increased collection of "old doctor bills," which is a practical desideratum much to be longed for by the average medical humanitarian. Pertussis has been moderately severe. I've had better results from the free exhibition of grindelia robusta than from any other remedy. I do not pretend to know how it acts; may be from the presence of free astringent acids, as has been suggested in the use of chestnut leaves. Rubeola has been severe; scarlatina light, and in such a modified form as to be often called simply scarlet rash; still, so often followed by the sequelæ as to leave no doubt of the nature of the disease. In both diseases I have freely used the sulpho-carbolate of sodium, and with a great deal of satisfaction. I think cases have been both modified and shortened. There has been a good deal of diphtheria, in which I have seen no reason

Digitized by Google

to change the usual treatment of quinine and tr. of iron. Locally I use only a simple gargle of hydrastis, or permang. of potash, or something else equally simple, and I wish to enter my protest against local swabbings and cauterizations in true diphtheria. They have sent many a patient where doctors "cease from troubling," and are as useless as they are harmful.

MERCER COUNTY,
DR. J. O. FRAZIER, Reporter.

This county has for the past year been happily exempt from typhoid in nearly all the localities where I am acquainted, and we have had less of pneumonia than usual, but during the past winter there has prevailed a wide-spread bronchial catarrh, amounting to an epidemic in some localities, which has been more persistent than is usual with this disease in our locality, the cough hanging on for weeks, and yielding slowly to treatment. In some cases our patients have become no little exhausted before the disease was arrested. We have through the year, as our most prevalent diseases, miasmatic fevers, intermittent, remittent, etc.

Scarlatina has prevailed to some extent all through the year, and in the south-west portion of the county it has reached a high rate of mortality during the last winter. Pertussis has prevailed more or less for six months. No peculiarities have presented in either of the foregoing diseases, and no improvements to note as to management. Our treatment of scarlatina for eighteen months yields no more than two per cent. of deaths in my neighborhood. We give a mild cathartic if the tongue is coated and bowels inactive, and then follow with sulph. cinchonidia or quinine with tr. ferri. I am also in the habit of using a gargle of liq. chlorinata about once an hour, or less often in mild cases, ordering older patients to gargle, and afterwards to swallow a portion of the fluid. In infants we order it to be swallowed, using no swabbing of the throat. The patient is bathed with tepid water as often as the skin becomes dry, hot, or itchy.

SHELBY COUNTY,
DR. WM. H. SPARLING, Reporter.

The past year has been a comparatively healthy one in this locality. During the summer months (June, July and August) scarlet fever prevailed, generally of a mild type. Malarial fevers peculiar to this climate prevailed during July, August and September. From that time to January, diseases seemed to be of a mixed character. No well marked cases of typhoid fever. During January, February and March catarrhal pneumonia prevailed to some considerable extent among young children and old people.

Digitized by Google

The scarlet fever, mentioned above, had no special peculiarities and readily yielding to ordinary treatment. Sulphate of cinchonidia was very extensively used in the treatment of malarial fevers, proving almost if not quite as satisfactory as quinine—much more so, indeed, as affecting physicians' pocket books.

ADAMS COUNTY,
DR. H. W. KENDALL, Reporter.

The prevailing diseases in this county the past year have been malarial and typhoid fevers, typhoid pneumonia and bronchitis. Catarrhal and croupous pneumonia to a very limited extent compared with other winter and spring months. We have had diphtheria and scarlatina from September last to April. I know of no improvement in the management of these diseases except the generally adopted antipyretic treatment with quinia, salicine, etc.

SCHUYLER COUNTY,
DR. WILL. B. MEAD, Reporter.

Prevailing diseases—malarial fever and pneumonia. Epidemics, none.

PUTNAM COUNTY,
DR. E. GAYLORD, Reporter.

No prevailing disease, and no epidemics.

MENARD COUNTY,
DR. J. M. NEWCOMER, Reporter.

Diphtheria has been somewhat epidemic, in the treatment of which, I have placed the most importance in the very free use of stimulants and concentrated nutriments.

Locally, the following has been used:

℞ Tannin, - - - ʒ ii.
Sat. Sol. Potass Chl., - ℥ iss.
Glycerine, (Price's) . ℥ iss.
M Apply every four hours.

Tr. Ferri, Quinine and Acid Salicylic have been given in full doses internally, and the steam atomizer with a solution of the last named agent has been used when indicated. I avoid, religiously, irritants and counter-irritants.

Digitized by Google

JERSEY COUNTY,
DR. H. Z. GILL, Reporter.

No disease occurring with sufficient frequency to be called prevalent, except ordinary malaria No epidemics.

The year has been one of unusual health.

EFFINGHAM COUNTY,
DR. W. L. GOODELL, Reporter.

Pneumonia, malarial and bilious fevers. Epidemic none.

WABASH VALLEY REPORTS.

EDGAR COUNTY,
DR. WILLIAM MASSIE, Reporter.

In reply to your queries, I will say: First, that the health of this county has been unusually good during the last year. We had our usual malarial troubles in the Fall, which presented nothing peculiar except their stubbornness to yield to the usual antiperiodics.

We have had no epidemics, unless the few cases of Rotheln or German measles may be called an epidemic; slight paralysis followed in three cases. Nothing special in treatment, and no deaths from the malady.

COLES COUNTY,
DR. CHAMBERS, Reporter.

We have had no prevailing diseases in our county during the past year. It is true we had some cases of the customary endemic, (intermittent fever), and occasionally a case of pneumonia, and some ephemeral diseases, but our principal reliance for bread and meat, has been from surgery and midwifery. No epidemics have occurred.

CLARK COUNTY,
DR. W. H. MC NARY, Reporter.

The diseases most prevalent in all parts of the county are the various grades of the miasma ic fevers; commencing in the months of June and July, in the milder forms of intermittents and remittents, increasing in severity and duration as the season advances. Late in the Fall we have many cases of a continued type of the malarial fevers, having some symptoms of typhoid, but the malarial always predominating. We ha e no new

Digitized by Google

theory to advance in the treatment, but find a liberal administration of some one of the preparations of the Peruvian bark to be the best anti-periodic. During the last year have used almost exclusively the Sulphate of Cinchonidia.

At all seasons of the year we have now and then a sporadic case of typhoid fever, the best treatment for which we find is to gently sustain the system with nourishment, and meet such symptoms as present themselves during the run of the fever, with such remedies as are indicated.

The most dreaded and fatal sickness we have is pneumonia, which prevails eight months in the year; worse during the winter and spring. During the last winter, in the locality extending south-east of Martinsville, (some twenty miles,) to the Wabash River, it has prevailed in an unusually malignant and fatal form, some physicians reporting a loss of from one-half to two-thirds of their cases. As to their treatment I am not able to state.

Although this is our most fatal and common sickness, there seems to be no disease but what physicians have a more fixed and certain therapeutics, hardly finding any two physicians treating the disease alike. I am one that believes the old land-marks should be more adhered to. First unload the congested and engorged lungs by venesection, and follow it by such arterial sedatives as will also act as an expectorant. After a good secretion of the lungs is established, with the engorgement relieved, then the sustaining treatment of Quinine and other such therapeutics as might be more appropriately used.

As to epidemics, we have had none during the last year.

CUMBERLAND COUNTY,
DR. G. W. ALBIN, Reporter.

This county has been unusually healthy the past year,—unprecedentedly so.

JASPER COUNTY,
DR. L. W. JONES, Reporter.

Our prevailing diseases have been malarial and typhoid fevers, some pneumonia and puerperal fever. Whooping cough has been epidemic.

LAWRENCE COUNTY,
DR. J. HAYS, Reporter.

The prevailing diseases have been intermittent and remittent fevers and dysentery, (t e latter disease showing a strong tendency to become chronic), during the summer and fall months, with diseases of the respiratory organs, notably bronchitis, during the past winter.

Digitized by Google

Scarlatina has been the epidemic and the disease has showed its usual characteristics and unaccountable results. Some cases were very mild while others were truly malignant. Certain complications, such as nephritis, followed by anasarca were absolutely absent in the cases under my observation, and in the practice of reliable neighboring physicians. My mortality was three per cent. Treatment was expectant. Chlorate of Potash was administered as a gargle and internally, and when the thermometer indicated a temperature of 105° and more, energetic ablutions with water at 100° F. These never fail to reduce the temperature from two to five degrees, and to procure rest for some little people who five minutes before were delirious and burning.

The doctor believes that there is no doubt but that scarlatina is generated spontaneously under certain not well determined circumstances. All so-called prophylactics except *thorough isolation* are sheer moonshine.

Southern Illinois Reports.

RANDOLPH COUNTY,
Dr. O. S. Booth, Reporter.

The past twelve months has been unusually healthy; so much so that we have had only a very limited number of intermittents during last summer, autumn and fall.

The only disease that can be said to have raged epidemically in this county during the past year was whooping cough. I have passed through quite a number of epidemics of this disease, but I have never seen an epidemic of pertussis in which the disease was so protean in character, or presented so many complications. Some families would not only have the disease in its mildest and severest forms, but would furnish a case without the characteristic whoop, and then another complicated with some severe disease that would carry off the sufferer. If the patient had suffered from any disease, malarial or otherwise, and was reduced at the time of attack, then the intercurrent affection soon closed the scene Of hemorrhages, the most usual was extravasations of blood into the subconjunctival cellular tissue and into the cellular tissue of the eyelids. Some of the cases were attended with very high fever, with croupous laryngitis or tracheitis, or of both, or capillary bronchitis, catarrhal pneumonia, or pleuritis. Some of our cases terminated in pulmonary phthisis, by caseation; but when it did so, it was in those badly reduced or of a tubercular diathesis.

The complications seemed to depend largely upon the peculiar condition of the atmosphere. Our old croupous pneumonia is nearly stamped out, and catarrhal pneumonia has taken its place. The mortality from this form of pneumonia has been greater than usual, particularly in the very young, feeble or old.

Digitized by Google

Collapse of lungs and failures of the heart set in in some cases quite early, and the patient soon succumbed.

The treatment that appeared to give the greatest relief in the uncomplicated form of whooping cough was the bromide of potash and the hydrate of chloral.

The complications demanded remedies suited to each peculiar complication and condition, etc., etc.

JEFFERSON COUNTY,
DR. STONEMETZ, Reporter.

In reply to your card, I state that during the last six months pneumonitis has been the prevailing disease in the eastern part of this county. The improvement in my practice has been the discontinuance of alcoholic calorifics. I was led to discontinue the use of alcohol because it obstructs digestion, and thereby contributes largely to inanition, and consequently dangerous asthenia. I rely on tonics and alimentation to support the flagging powers of life.

FAYETTE COUNTY,
DR. F. B. HALLER, Reporter.

Prevailing diseases—malarial fevers and pneumonia. No epidemics.

ALEXANDER COUNTY,
DR. HORACE WARDNER, Reporter.

The past year has been one of unusual health. We have no epidemics whatever occurring. Cairo has been exceedingly healthy for the past one and a half years. If it continues, there must be an exodus of physicians to more promising fields of labor.

PULASKI COUNTY,
DR. J. W. MOTT, Reporter.

This county has been healthy. No epidemic prevailing. Malarial diseases have occurred somewhat less frequently than usual. A few cases of scarlet fever, but not epidemic.

POPE COUNTY,
DR. YOUNG, Reporter.

Prevailing diseases—malarial and typhoid fevers and pneumonia. Mortality about one in thirty cases. Dysentery was our epidemic. Under the use of the mercurials, with opium, nux vomica and the preparations of

Digitized by Google

Peruvian bark, the disease yielded quite readily, about one in fifty cases proving fatal. Whooping cough, with a great variety of lung complications, has also been prevalent.

RECAPITULATION.

1st. Contrary to the general opinion, especially among the laity, the health of our population has been unusually good.

2nd. Notwithstanding the abundant presence of those peculiarities which usually produce miasmatic diseases, these mala dies have not been particularly numerous; but where they have prevailed, the duration of sickness and mortality therefrom has undoubtedly been greater.

3d. Pneumonia has prevailed to a considerable extent, and in some parts of the State the mortality has been great.

4th. Epidemics of pertussis have been and continue to be very general throughout the entire State.

5th. The testimony *against* cauterization and local swabbing of the throat in diphtheria is universal.

Questions of importance to the people and of interest to the profession, which demand further investigation:

1st. The cause of typhoid fever in our farming community.

2nd. The source of water supply in towns and cities provided with the Holly system, as affecting the health of the inhabitants.

In conclusion, the chairman of the committee desires to thank his brethren of the profession for the very general reply to his circular of inquiry, and to express his regret that in many cases it was impossible to publish the answers in full. The treatment of diphtheria by Dr. Lichty, and the use of salicylic acid and lactate of iron in true croup by Dr. Maxon,

Digitized by Google

would be of great interest to the profession, but the length of the report precludes their publication.

EXOPHTHALMIC GOITRE.

Its Frequency in Illinois, with a Brief Consideration of its Recent Pathology and Treatment.

BY CHARLES W. EARLE, M. D.

This disease, prominently characterized by palpitation of the heart, with or without organic trouble, swelling of the thyroid and exophthalmus was described, according to Eulenburg, as early as 1825, by Parry. Several years later the subject was investigated by Basedow and Graves, and the disease to this day is pretty generally called Basedows, in Germany, and Graves in England. Most American physicians I believe, speak of it as exophthalmic goitre.

To place on record simply a fact in regard to its frequency in our State, comparing perhaps its occurence in the country, with the city, was my thought when I commenced the preparation of the article; recently, however, it has seemed best that I should present a very brief description of the disease, with the latest views in regard to its pathology and treatment.

SYMPTOMS AND PROGRESS.

Its development is usually slow, although a few cases are on record where this disease runs a very acute course.

The three prominent symptoms usually make themselves manifest in the following order:

1st. Acceleration of pulse with palpitation.
2d. Enlargement of thyroid gland.
3d. Exophthalmus.

Emaciation is present, and sometimes a most exhausting marasmus is the result. Vomiting in some cases is constant, and may become a dangerous complication.

The three following unpublished cases represent typical cases, and illustrate the present ideas of treatment.

Digitized by Google

CASE 1. Mrs. Wilkins, aged 44; had always been a very healthy and active lady. She is the mother of five children, all of whom present evidences of healthy progenitors.

About two years before her health began to be impaired, her husband, Prof. Wilkins, known to many of this Society, and for years connected with the educational interests of our State, accepted the superintendency of the Washingtonian Home, of Chicago, and Mrs. W. became the matron. The old building was demolished to give place to a new one, a temporary asylum was occupied for a few months, and finally the elegant and commodious new building was entered, and settled in all its apartments. The subject of this sketch was not only largely occupied with all these changes, but daily was responsible for the food and care of apartments for from twenty to fifty inmates; and, more than all this physical labor, she was deeply interested in the reformation of those committed to the institution. If a man did badly while in the Home or after his discharge, the anxiety and regret, and mental depression, was intensely felt by Mrs. Wilkins.

It is needless for me to say that it seems to me, that the cause of the sickness I am about to describe was caused by severe physical and mental labor.

In August, 1876, my attention was called to a slight enlargement of the thyroid. I ordered the iodine preparation externally, also the ung. hydrargyri iod. rub., with apparently some relief. She appeared to be somewhat anæmic, but her condition did not alarm me in the least, as I supposed it a simple case of surgical or common goitre. In November I noticed for the first time a very rapid pulse and palpitation of the heart. Impaired nutrition was also more prominent. In February she had a mild attack of diphtheria, and the prostration following made the diagnosis of her true disease still more difficult. During the month of March she was seen by Dr. N. S. Davis, and also by a medical relative living somewhere in the country. She was able to travel, although with some difficulty. From April 1st. she was confined to her room; emaciation still progressing; short of breath; impulse of heart prominent;

Digitized by Google

thyroid somewhat diminished in size. About April 25th the patient became so weak that she was obliged to take her bed. 27th, P. 105, R. 25, T. 100¼. Extract of malt, 3 parts, with syrup phos. co. 1 part, with quinine and a generous diet. May 1st,—could feel distinctly on almost every part of the body a pulsation, synchronous with the heart. 4th., P. 115,—gave digitalis and ergot. 5th., P. 96, T. normal. About this time during one of my visits, I noticed a slight protrusion of the eyes, and the disease from which she had been suffering for more than six months was first recognized.

I have no apology to make for this late diagnosis on my part. Eminent practitioners had visited her; every organ of the body had been closely examined, time after time. I had seen her daily during visits to the institution for more than six months, and yet so obscure had been the symptoms of her disease, and so gradual their inception, that I failed to recognize their import.

The three prominent symptoms of the disease were now manifest, and vomiting was a constant symptom; the sight of food was repulsive. June 1st, pulse was 100, and occasionally irregular. June 5th, electricity was used for first time, by a Mr. Stone. The 10th, pulse was 140,—large doses of digitalis and veratrum viride only reduced it to 132; could count pulse easily by slightly touching tips of fingers. The 18th, P. 150, T. 100. All medicine at this time had been discontinued, nothing seeming to do the least good. The patient vomited constantly, and the emaciation was simply frightful; from a strong and robust woman weighing 180, she was reduced to a mere skeleton of probably not more than 80 pounds. The waste and degeneration of tissue had been truly wonderful, and the disease seemed to be rapidly advancing to a fatal termination. All medicine had been discontinued, the patient and friends thought they did her harm, and their administration, according to the electrician, interfered with his agent. It has always seemed to me that the use of the battery was of benefit, but it was only continued for three weeks.

Digitized by Google

At this time *massage* was commenced by Mrs. Robb, of Bloomington, a former nurse and intimate friend of the patient. Patiently and faithfully every hour of the day for three weeks, and from four to five times a day for the two following, it was performed, and with most remarkable results. The patient who seemed almost on the verge of the grave, began to improve. Her vomiting ceased, appetite began to return slowly, and July 15th, she sat in a chair for a short time. The improvement was not rapid; six months afterward, her pulse being 100, but the exophthalmus and goitre had disappeared. The menstrual molimen, I should observe in passing, was interrupted but once during this entire sickness.

She has gained health and strength until the present time, when, with the exception of getting weary somewhat more frequently than formerly, she is as well as before the attack. Her pulse now is 85, and normal in every respect, and her weight, 178 pounds.

This case was unique throughout its entire history. Its development in a perfectly healthy lady; its obscure symptoms, for months baffling the skill of all who were called to see her; its march steadily forward toward what seemed certain to be a fatal termination, despite the use of every remedy which seemed indicated, not one doing a particle of good, with a final recovery, completes a history which cannot fail to interest every earnest student of our profession.

Case 2. *Mrs. J. of Aurora, aged 41, married; the mother of two children, the youngest 16 years old, came to our office for medical advice and treatment, May 20th, 1875. The case, a typical one, exhibited the following prominent symptoms: The thyroid was enlarged on either side so as to amount to a deformity; the goitre pulsated in rhythm with the heart; the pulsations could be seen across the room. A murmur was present, and could distinctly be heard a foot from the goitre, otherwise the heart sounds were normal. The pulse was rapid, from 110 to 130 per minute, and at times quite irregular as to

*In the practice of Dr. Plym S. Hayes, who kindly furnishes me the history of the case.

Digitized by Google

the frequency of pulsations in a given time. The eyes were protruded so that the lids barely covered them when the eyes were closed. The eyes were in constant motion—a little extra excitement would cause her to cry violently.

She was so exceeding nervous that her friends considered her a fit subject for an insane asylum. She was troubled with insomania, and on her first visit complained as much of this symptom as of any other. Within the few weeks prior to placing herself under electrical treatment, the distressing symptoms had increased with such rapidity as to alarm her greatly.

The diagnosis was Exophthalmic Goitre.

Treatment. This consisted of the electrical bath, followed by local application of the faradic, and galvanic electricity to the eyes and over the enlarged thyroid, the positive electrode being placed over the above mentioned parts, the negative being held in the hands, this treatment being continued for five minutes. The first treatment acted to soothe and relieve the most distressing of the nervous symptoms, and made the heart beat more evenly.

During 1875, she received 79 treatments.

She received 14 in 1876, and only two in 1877. In 1878, during the month of March, 9 treatments.

The treatment of this case was very unsatisfactory on account of the irregularity with which she took treatment, and on account of her ambition to do that which was beyond her strength, frequently causing a return of the most distressing symptoms after they had nearly disappeared. The necessity for treatment in March, was caused by a slight return of the trouble which was speedily relieved by a few treatments. The thyroid gland, though still somewhat enlarged, would not be noticed except by close observation. The same may also be remarked in regard to the eyes; she considers herself perfectly well, but there is occasionally a slight return of some of the symptoms of the old trouble when she becomes exhausted by severe mental or physical exertion.

Case 3. Miss Skeer, daughter of Dr. John D. Skeer, 681 Washington Street, Chicago, after her graduation at the High

Digitized by Google

School, continued to be an intense student of the higher branches, literature, history and music; she lived far in advance of her years. When taken ill, vomiting was the most prominent symptom, and for want of a better name, the disease was called by her father, and those with whom he consulted in regard to her, Gastric fever. Six months after, palpitation became a very marked symptom, followed by great emaciation. The next indication of morbid action noticed was paralysis of the vaso-motor nerves, supplying, particularly the head and neck area, but not alone in this location for it was perceived to a certain extent in all parts of the body. Next was noticed, (about two weeks after the vaso-motor disturbance) a large and staring appearance to the eyes, the left more prominent, and now came enlargement of the thyroid, more noticeable on the right side. Vomiting continued to be a marked symptom, and the emaciation was very rapid. The menstrual function remained undisturbed until three months before her death, which occurred a year and a half after the commencement of the disease. She was seen by Profs. Gross and Mitchell, of Philadelphia, the last named gentleman recommending cold water baths, and by Dr. Seguin, of New York, who suggested a preparation of Phosphorus. A short time before her death, she was under the care of Dr. Walter Hay, who gave her the benefit of Ergot. Stimulants always did harm—the iron preparations seemed to do no good whatever, and the same may be said of cardiac sedatives.

ITS FREQUENCY IN ILLINOIS.

Dr. Birney, of Urbana, has knowledge of only two cases, one of them being reported by Dr. Pearman.

Dr. G. Wheeler Jones, of Danville, has seen four cases in twelve years.

Dr. Stonemetz had one case four years since.

Dr. J. V. Frazier, of Mercer county, reports one case aged 22 years; anæmic, and suffering with the usual trio of symptoms; recovered.

Dr. Maxon has never seen or heard of a case in Lake county.

Dr. Wm. Massie, of Edgar county, says: "Strange as it may appear, a case has never fallen under my observation.

Digitized by Google

Dr. Chambers, of Coles county, has not seen a case of exophthalmic goitre in this State in twenty years' practice.

Dr Sparling, of Shelby county, reports that he has seen none during the year.

Dr. Wm. H. McNary, of Clark county, has met with two cases in several years' practice.

Dr. F. B. Haller, of Vandalia, has never seen a case.

Dr. Wardner, of Cairo, does not remember of seeing a case in his county.

Dr. Mott has not seen any cases. Knows of a case of exophthalmus, without goitre.

Dr. W. H. Fitch has not heard of a case in eight years' residence in his county.

Dr. L. W. Jones—None in Jasper county.

Dr. E. P. Cook, of Mendota, has never met with a well marked case in private practice.

Dr. Will. B. Mead has never seen a case, and in seven years' practice in his county has never heard of one.

Dr. E. Gaylord, of Putnam county, has met the disease twice in his practice—one proving fatal.

Dr. H. Z. Gill, of Jerseyville, has never seen a case in his county.

Dr. C. C. Hunt, of Dixon; can call to mind only two cases in his own practice, and none among the neighboring physicians. They did not prove fatal.

Dr. J. Hays, of Paris, although living in the county for twelve years, has never seen a case.

Dr. J. M. Newcomer has not seen a case in twelve years' practice in the State.

Dr. Crummer, of Warren, saw one case, about five years ago, which recovered. This is the only case in ten years' practice.

Dr. Goodell, of Effingham, remarks that it is the most unfrequent of all diseases. Years ago he saw a case in his father's practice, and has treated, during the past nine years, in his own practice, three cases; prognosis favorable. Has three under observation at present. Neighboring physicians, when asked in regard to the disease, answer that they never had a case.

Dr. D. Lichty, of Ogle county, says the disease is very rare; had a transient case under his care during the past winter; patient has now removed to Ohio. He knows of no deaths, and thinks it is but little known as a fatal disease among country practitioners.

Dr. David. S. Booth, of Sparta, has treated directly and indirectly, as consultant, fifteen or twenty cases in as many years, all of whom recovered, with a single exception, and this patient died of an intercurrent disease shortly after confinement. All the cases except one were strongly anæmic, and the female cases were influenced by or seemed to be connected with their monthly molimen, *e. g.:* amenorrhœa, dysmenorrhœa,

Digitized by Google

menorrhagia, or metrorrhagia. The Doctor has never detected any organic disease of the heart, valves, or larger vessels. Iron in some form was given in all cases, with a result for the better.

Dr. M. W. Kendall, of Quincy, says of exophthalmic goitre: "I know but little, except in connection with diseases oi the nervous system in females, particularly hysteria and chorea. I could give quite a list of cases in connection with hysteria and the rapid disappearance of exophthalmus and goitre under large doses of potass bromide and ferri carb. I have seen but one person die who had this disease, and that not a typical case. He was a Frenchman, 65 years old, a tailor by trade; of strumous habit, and with extensive varicose ulcerations on both legs of long duration; and what he called tetter on both arms, at elbow. Goitre slight, exophthalmus extreme. Patient died of general paralysis, first shown in upper eyelids and tongue.

I am sorry that I did not receive your request sooner, as I would have been able to give you quite a paper on hysterical goitre, with or without exophthalmus.

Dr. Young knows of no cases in his county during the year.

Dr. Foote, of Belvidere, writes that in regard to goitre: "I am not able to give the proportion of cases of the ophthlamic variety." He usually relies on the iodine preparations, and the results have been all that could be desired.*

EXOPHTHALMIC GOITRE IN CHICAGO.

Dr. Davis does not remember of having more than five well-marked cases of this disease; and the two articles of the *materia medica* that have done the most good in his treatment of the disease, were digitalis and ergot.

Dr. H. Webster Jones remembers only three cases during twenty years residence in Illinois. One passed from his observation unrelieved, but the remaining two were rendered very much better by the use of the constant current of electricity. The first case did not have the benefit of the use of electricity.

Dr. Bannister has seen from fifteen to twenty cases, four or five of them being males. He believes the disease to be very generally curable. The best nourishment possible, with digitalis, the bromides and ergot, with iron in some cases, and the use of the constant current, is a general outline of the treatment.

Dr. Jewell has seen several of these cases with a number of others. His views concur with those advanced by Dr. Bannister.

Dr. Lester Curtis has had five cases in as many years. Has always considered it a disease of the sympathetic; thinks it is not always recognized. Iron sometimes does good; digitalis, ergot and the bromides more frequently. Has no experience with electricity.

* It is quite probable that the doctor has misunderstood my question, and has written concerning common goitre, rather than exophthalmic goitre.—C. W. E.

Digitized by Google

Dr. Skeer has been in the State eighteen years, and has knowledge of five cases, all in the city and all of comparatively recent date.

Dr. T. D. Fitch, in some fifteen years practice in the country did not see a case, and only two or three since, in a city practice of nearly twelve years.

Dr. Jacobson has never seen a case in this country, but remembers several in Scandinavian hospitals. He believes the disease less frequent here than in the old country.

PATHOLOGY.

A certain number of autopsies show a preponderance of al terations in the ganglia of the sympathetic, and in the majority of the recorded cases in the lower cervical ganglion of this system. The number of recorded autopsies is small, and it is quite probable that we are not in possession of facts which will warrant us in supposing the pathology of this disease is *absolutely determined.*

Lesions have been found in different parts of the central nervous system and in the heart, but the weight of evidence would locate the principal alteration in certain parts of the sympathetic.

Eulenburg calls particular attention to the fact, that certain autopsies show a preponderance of affection in the lower cervical ganglion, while the upper and middle ones are scarcely at all affected.

Trousseau says: (p. 189, vol. II.) The very numerous functional disorders, which occur in Graves' disease are either due to temporary congestion of the sympathetic nerve, or to a permanent structural alteration of the ganglionic nervous system. DaCosta says, the disease is now considered by many as being due to an affection of the cervical sympathetic nerve.

Bartholow, of Cincinnati, says: "That the motor influence of the heart is in part, and of the vessels, both of constriction and of dilatation, wholly derived from the sympathetic, must be admitted as established. That the pneunogastric is the regulator of the cardiac movements, seems equally, positively determined. The clinical phenomena of Grave's disease, indi cates that both sources of nervous supply are disordered—are depressed in function. At all events, it seems evident that

Digitized by Google

the curative value of the galvanic current is explicable on no other theory."

Prof. Pepper, of Philadelphia, is of the opinion "that the cause is found in a morbid condition, with enfeebled activity of the cervical ganglia of the sympathetic and of the cardiac plexus of nerves. In consequence of this, irregular over action of the heart and dilatation of the vessels of the neck and head would result." *

Prof. Jewell, says: "Basedow's disease consists in irritation, and hence morbid action in that part of the vaso-motor system which is distributed more particularly to certain vascular areas about the head and neck. It is not limited to the extra spinal portion of the vaso-motor system, but affects as well and more essentially the related centres in the cervical portion of the spinal cord, and perhaps the upper dorsal as well, instead of having as a central seat, the medulla, as Benedict appears to hold. If its seat were in the medulla, there is some reason for supposing more general vaso-motor disturbances would result, and especially intracranial vaso-motor disorders, which seem to be, in a great measure, absent in this disease. For these, and other reasons equally satisfactory, we have been led to fix its spinal centre or centres, in the part already named. This view agrees with experimental investigations. The accelerator nerves of the heart take their origin from the upper dorsal and lower cervical portions of the sympathetic, and hence are anatomically and physiologically related to the portion of the cord supposed to be the seat of morbid action in Basedow's disease. If irritated, or stimulated to an unnatural degree, experimentally, they cause increased rapidity in the action of the heart, and their irregular action may well be the cause of the cardiac irregularities observed in the disease under consideration. It seems possible, then, to trace, at least in part, the three cardinal symptoms of Basedow's disease back to the vaso-motor centres in the upper dorsal, and cervical portions of the spinal cord, and the related peripheral portions of the

* Bartholew & Pepper, quoted from a very valuable graduating thesis of Dr. Geo. S. Abbott, Class 1878, Chicago Medical College.

Digitized by Google

vaso-motor nerves. As to the real nature, cause, and precise limits of the nervous lesion, but little is certainly known. We have carried this account of the pathology of Basedow's disease farther than Dr. Eulenberg has done, because we deem the subject important, and one upon which a much clearer light may be thrown than has been up to this hour."

TREATMENT.

Almost every drug known to the profession has probably been used. Tonics, nerve depressants and stimulants; hydropathy and bleeding; digitalis, aconite and electricity; the iodide and bromide of potassium and ergot; hydrocyanic acid, belladonna and arsenic. It is difficult to indicate a line of treatment from which one must not necessarily deviate. Iron will sometimes do good, and in others, certainly causes an exacerbation of symptoms. Digitalis will at times be followed with an apparent favorable result, and in other cases, no effect whatever can be produced by it, or with the most powerful combination of arterial sedatives. From all that can be gathered, and from my own experience, it seems that the following line of treatment will succeed in a majority of cases: Rest, mental and physical, particularly in regard to anxiety and care of any kind; the best nutrition possible; the use of tonics, with nerve sedatives and ergot, where found to agree with patients; with the use of electricity. Galvanization with the constant current, of the cervical sympathetic, is recommended by a large number of eminent practitioners at the present time. It seems to reduce the pulse, and to restore lost tone more speedily than anything else. I think I can safely say that more cases have been cured by the use of electricity than by all other means. Eulenberg's practice has been to apply the negative pole to the cervical ganglia of each side in turn, or to both at once by means of a divided electrode.

Prof. Jewell says: "As respects the choice of currents, we have tried thoroughly the induced current, and have been quite as well pleased with its action as with the constant current, though we have employed both. Our method

Digitized by Google

has been the prolonged use of a current of moderate strength, (induced) placing the patient's foot on one electrode, while the ordinary sponge electrode, or the hand has been employed over the presumed seat of the disease for fifteen or twenty minutes, every day or so. The results have been uniformly excellent, and with but little besides, in the way of medication, except strict hygienic regulations."

MASSAGE or systematic rubbing and kneading is probably of great benefit, especially where nutrition is sluggish; its real worth however, is probably not as yet determined.

Dr. Buck stated that during the last seven or eight years one well marked case of exophthalmic goitre had come under his observation, which was the only one he recollected of having seen since he commenced practice. The case was a lady in the middle period of life, who had been treated for disease of the heart. The prominence of the eyes, the enlargment of the neck, and the rapidity of the heart's action were all well marked. He treated her with arterial sedatives at first, with some ergot and belladonna, and after the pulse was somewhat reduced she was kept on the use of tonics, chiefly the phosphates and iron, with good air and nourishment. She remained under the doctor's supervision for six or eight months, and recovered very fair health.

Dr. Jewell, stated that cases coming properly under the head of Exophtholmic goitre were of more frequent occurrence then was generally supposed. He did not regard it as necessary that all three essential symptoms should co-exist in every case, namely: the prominence or bulging of the eyes, the goitrous enlargement of the neck, and the excited action of the heart. On the contrary, one and sometimes two of these conditions would be absent. He considered the disease as located in the nervous structures, more particularly involving certain parts of the cervical portion of the spinal cord and the pneumogastric nerves. He described somewhat minutely the seat and nature of the disease, but the stenographic reporter wholly failed to note this part of his remarks. He thought a large part of the cases met with in practice would recover under a proper regulation of the diet and exercise, and the judicious use of electricity and tonics, but the treatment needed a considerable length of time.

Dr. Jones said that he coincided with the views expressed by Dr. Jewell, both in regard to the nature and treatment of the disease. He thought it of great importance to satisfy the mind of the patient that the disturbance of the heart was purely functional and not dangerous. The simple removal of mental anxiety and fear contributed largely to the recovery of the patient in many cases. He also alluded to attempts that

Digitized by Google

had been made to lessen the protrusion of the eye balls by the pressure of a continuous bandage, but did not think the practice productive of benefit.

Dr. Davis stated that the differences of opinion in regard to the frequency of the disease were caused by the absence of any generally accepted standard of diagnosis. The name implied a disease necessarily involving both undue prominence of the eyes, and goitrous enlargement of the neck, as well as failure of the general health; and many practitioners regarding the co-existence of these as necessary to constitute the disease, have met with it very rarely. While others, agreeing with Dr. Jewell, that the disease is an affection of the vaso-motor and certain parts of the cerebro spinal nerves, without necessarily involving either exophthalmus or goitre, may meet with cases very frequently. If the last class of practitioners are correct, the name of the disease should be changed.

Dr. Holmes remarked that he had examined quite a number of cases called exophthalmic goitre, in some of which there was marked prominence or bulging of the globes of the eyes, with impairment of general health, but without enlargement of any part of the neck. He thought the judicious use of electricity and much rest in a recumbent position, the most important items of treatment.

Dr. Johnson, of Peoria, said he had seen and treated several well marked cases of the disease, presenting both exophthalmus and enlargement of the glands. One of these cases was a lady, in the middle period of life; she was treated with tonics, alteratives and nerve sedatives for nine months, when her general health was restored, and the bulging of the eyeballs and enlargement of the thyroid gland were diminished, but not removed; her general health still remains good. The other cases did not remain under his treatment long enough to produce any decided results.

REPORT OF THE COMMITTEE ON OBSTETRICS.

BY T. DAVIS FITCH, M. D., CHAIRMAN,

PROF. GYNECOLOGY WOMAN'S MEDICAL COLLEGE, GYNECOLOGIST TO COOK COUNTY HOSPITAL, ETC.

Mr. President, Ladies and Gentlemen:

The Constitution of our Society, as at present existing, makes it the duty of the Committee on Obstetrics to "prepare an annual report on all the improvements, in the obstetric art and in the management of the diseases peculiar to women and children, effected in Illinois, and collect statistics during the

Digitized by Google

year." Your committee begs leave to depart from this rule in the present report, inasmuch as the rule has not been observed for many years past, and hence has become a dead letter. Not that we wish to violate the law, for as a rule we are law-abiding citizens, and it will be seen in the report of the Committee on Revision of the Constitution, By-Laws, Rules and Regulations for this Society that it is unanimous in the recommendation of changes in the specified duties of the various standing committees.

You will pardon the committee, therefore, if it presents for your consideration a few important subjects from among the many for your consideration at this time.

THE USE OF ANESTHETICS IN LABOR.

First, we will call your attention to the use of anesthetics in labor; especially the necessity of caution in their use.

At a meeting of the American Gynecological Society, held in Boston, May 30 and 31 and June 1, 1877, Prof. Lusk, of New York, read a paper on the necessity of caution in the employment of chloroform during labor, in which the following five propositions were submitted, viz.:

1. Deep anesthesia, carried to the point of complete abolition of consciousness, in some cases weakens uterine action, and sometimes suspends it altogether.
2. Chloroform, even when given in the usual obstetrical fashion, namely, in small doses, during the pains only, and after the commencement of the second stage, may, in exceptional cases, so far weaken uterine action as to create the necessity for resorting to ergot or the forceps.
3. Patients in labor do not enjoy any absolute immunity from the pernicious effects of chloroform.
4. Chloroform should not be given in the third stage of labor. The relative safety of chloroform in parturition ceases with the birth of the child.
5. The more remote influence of large doses of chloroform during labor upon the puerperal state is a subject that calls for further investigation and inquiry.

The Doctor says: "Personally I use chloroform constantly in labor, as a means of lessening suffering. I should regret exceedingly were any utterance of mine to discourage others in its employment. If Sir James Simpson's dream of the uni-

Digitized by Google

versal employment of anesthesia in labor is ever to be realized, it will not be until men shall have been forewarned, and have learned to be forearmed against every possible contingency."

As a contribution in this direction, he submitted the foregoing propositions for argument, and, he trusted, for the Society's endorsement. He restricts the use, to complete anesthesia, to those cases requiring operative procedure, where *tetanus uteri* exists, and cautions against delivery in the absence of pain, so far as is consistent with the child's welfare, for he says in such cases hemorrhage is certain to follow.

With regard to the second proposition, the Doctor says that weakening or suspension of pains from the influence of chloroform is sometimes more or less permanent. Scanzoni, after impressing upon his countrymen the rule that the suspensive influence of chloroform upon the uterus is a temporary one, calls attention to the fact that the rule is not without exception.

With regard to proposition three, the Doctor reports several cases occurring in his and other persons' experience where death had occurred or very dangerous symptoms supervened, some immediately and others more remotely from the time of administration.

In regard to the fourth proposition, the Doctor reports a case of death in his hospital practice where it was necessary to introduce the hand to remove the placenta, and the patient resisted and shrieked so loudly that he gave her *a little* chloroform and removed the placenta. He says: "But the sudden and unexpected collapse occurring in a patient in apparently good condition upon the administration of chloroform in the third stage of labor made such a striking impression upon me that nothing would ever induce me to order chloroform again when the stimulating action of the labor itself was no longer present to counteract the depressive action of the agent."

In regard to the fifth proposition, the Doctor reports a case where chloroform was freely used. While labor lasted, no unusual effects were produced. After the labor was over, the extent of the systemic saturation was manifested by want of uterine contraction and cessation of respiration, which was

Digitized by Google

kept up artificially for an hour before normal respiration was established.

I am of the opinion that the more remote influence of an anesthetic in retarding the getting up, favoring septicemia, and so forth, will never be duly appreciated, as no accurate estimate can be made.

The following remarks were made during the discussion of this paper.

Dr. Wilson, of Baltimore, remarked that the cases reported by Dr. Lusk were the first of which he had heard where death had occurred from chloroform. He had always felt the most perfect confidence in the agent. With reference to *post-partem* hemorrhage following the use of chloroform, he had never had a case, nor had he seen the slightest ill effects following or attending its use during an experience of twenty-eight years, and an administration of the agent between two and three thousand times. He had employed ether only four or five times, which perhaps was a rather unsafe statement to make in Boston. He always preceded the use of chloroform by the administration of a dose of some alcoholic stimulant.

Dr. A H. Smith, of Philadelphia, regarded the paper as one of great interest, and thoroughly endorsed all the apprehensions expressed regarding the use of chloroform. In his own practice he employed Squibb's ether, believing that it possessed all the advantages of chloroform, and could be used with absolute safety. He used it in ordinary cases of labor. Yet there were cases in which a rapid and perfect loss of consciousness was desired, and under such circumstances advantage might be derived from the use of chloroform. For example, in hemorrhagic abortions, where an absolutely relaxed condition was desirable for the purpose of giving the opportunity of carrying the finger instantly to the *fundus uteri* for the removal of the ovum. In such cases he always used chloroform, because the short time for which the patient was under its influence, as a rule, rendered it safe. But in ordinary obstetric practice he had the same apprehensions spoken of by Dr. Lusk, and perhaps to a greater degree.

In an address read before the Detroit Medical Journal Association by Prof. E. W. Jenks, he states that he has long since decided as to his own rules of practice regarding the use of anesthetics in obstetrics, and states them to be as follows:

1st. That they may be given to the extent of producing partial loss of consciousness, in any stage of labor, without doing harm.

2nd. That complete anesthesia, except in convulsions and the more important and painful obstetric operations, is to be avoided, as it lessens the contractile power of the uterine and abdominal muscles, and thus protracts labor.

Digitized by Google

3rd. Even in convulsions, if there is much *venosity* of the surface, or imperfect respiration, anesthetics, particulary chloroform, must be used with extreme caution.

4th. Complete anesthesia very markedly protracts the third stage of labor, and renders the woman more liable to post-partum hemorrhage.

5th. Chloroform is preferable to ether except when profound anesthesia is required for a protracted period.

The members of this Society will remember that whenever I have had occasion to speak of the use of anesthetics in labor, I have invariably taken the ground that anesthesia, partial or complete, had a strong tendency to diminish the force and frequency of uterine contractions, or of abolishing them altogether. That it also abolishes the contraction of the abdominal muscles and diaphragm, which I regard as very important aids in the expulsion of the fœtus.

Playfair, in his work on obstetrics, page 266, confesses the tendency of chloroform to abolish uterine contractions. He says:

"The latter, (chloroform) while it unquestionably annuls suffering, at the same time very frequently tends, in a marked degree, to diminish uterine action. This is a familiar observation to all who have employed it much during labor, as the diminution of the force and intensity of the pains, and the subsequent retardation of the labor, often obliges us to suspend its inhalation, at least temporarily."

Prof. Byford says, in his work on obstetrics, second edition, page 227:

They [anesthetics] sometimes act beneficially in every respect, but at other times their influence is attended with unpleasant effects in some particulars. Probably the most frequent ill-effect from their use is their occasional tendency, when given in moderation to lessen the efficiency of the pains, and when administered too freely, I think they generally do this. Their influence in this respect is sometimes so marked that the labor is protracted very considerably. Another effect, less frequently observed, is to render the patient so delirious as to make her unmanageable, unless kept too profoundly affected by them."

My observations fully confirm both these statements, more especially the latter. I have very distinctly in my memory, several cases of this kind, one that has occurred in the past few months, where the patient became so delirious and ugly that

Digitized by Google

she would kick and strike, curse and swear (and she a modest Christian woman), so that I could not assist her or go near her unless the anesthetic was pushed to complete anesthesia, in which case all pains would immediately cease. The only course for me to pursue was to apply the forceps (she being in the second stage of labor) and deliver, which I proceeded to do while she was completely anesthetized.

I can, therefore, endorse most fully the propositions of Prof. Lusk, especially section 4, in reference to giving the anesthetic in the third stage of labor, which is in direct conflict with the first section of Prof. Jenks' proposition, that "they may be given to the extent of partial loss of consciousness in any stage of labor without doing harm." This I cannot endorse. As may be seen by the foregoing statements, anesthetics materially interfere with this stage of labor and predispose to post-partem hemorrhage. I have had sufficient experience in this matter to convince me that they should not be used under any circumstances in this stage of labor, not even where manual delivery of the placenta has to be resorted to, for the pain which is produced by the operation has a tendency to stimulate the patient so that if she is syncopic she will be aroused by the pain, therefore it becomes salutary.

I have had, as I said before, sufficient experience in this direction to cause me to refuse under all circumstances to yield to the importunities which are almost invariably offered by the patient under such circumstances, especially when she has taken the anesthetic during the second stage.

I desire to add that I generally prefer *ether* (Squibb's) to chloroform, and that I have always been in the habit of administering an alcoholic stimulant *to the patient* from fifteen to thirty minutes before the anesthetic, in the shape of wine, brandy or whisky. I do not give a sedative or narcotic dose, but a moderately stimulating dose, as suggested by Dr. Wilson of Baltimore, in his discussion of Prof. Lusk's paper. This *valuable* suggestion came from the founder of Rush Medical College, Prof. Daniel Brainard, in 1851, since which time it has been my invariable custom in my army, hospital and private

Digitized by Google

practice to precede the anesthetic with an alcoholic stimulant, and have never had cause to regret it. I believe it has a decided tendency to keep up the heart's action and the various vital functions of the body, whilst the patient is deprived of volition and sensibility by the anesthetic.

HOT WATER AS A HEMOSTATIC.

Of late much interest has been excited in the profession on this subject. Although the literature is somewhat meagre, yet sufficient has been done and said on the subject to show that it is an important remedy in hemorrhage, more especially in atonic post-partum.

The first record on the subject, so far as I can learn, is a reference by Windelband to an article by Dr. Mann, in an American journal, describing the great benefit he had derived from hot water injections in two cases of abortion, the pains which had abated being again aroused, and the hemorrhage ceasing.

Dr. Lombe Atthill states that he was induced to try it, in consequence of a letter written by Dr. Whitwell, of San Francisco, to Dr. Foley of Boston, who was at that time studying in the Rotunda Hospital, under Dr. Atthill. Dr. Whitwell's statement is to the following effect:

> When house surgeon at the New York State Woman's Hospital, he saw the uterus contract firmly and instantly upon being washed out with hot water after an operation by Dr. Marion Sims upon a sarcomatous growth of the fundus uteri. This was in 1874. The result led him to try the same treatment in post-partum hemorrhage, when he met with perfect success. He afterward succeeded in having the treatment tried in the Lying-in Hospital at Prague, where he studied for some time. At first he was ridiculed, but as the method was successful in every respect, it was adopted as a regular routine treatment. The water should be at a temperature of 110° F.

Dr. Atthill said he had seen it alluded to in some of the periodicals, but this decided him to test it personally.

Dr. Windelband states that after an experience of two years with this treatment in the most difficult and severe cases of uterine hemorrhage, it is his conviction that hot injections

Digitized by Google

are invaluable and certain in their effects. They are preferable, when help is urgent, to cold or astringents of any kind.

In the numerous cases of uterine hemorrhage which came under his notice during the above period, the tampon was employed only once, and then only because of the urgency of the case, being at night, no syringe or apparatus could be procured.

While making the injections, the patient always lies upon her back, and a simple irrigator which gives a continuous and energetic current is employed. The temperature of the water at first is about 118° F., and is raised according to the urgency of the case, to 124° F., this can be done without fear, as the sensitiveness of the genital organs to the heat soon diminishes.

One of the advantages of the method, besides its precise and prompt action, is that the hot injections do not by any means cause unpleasant sensations and after-effects, as is always the case when cold is employed. Hot injections never leave any unpleasant or dangerous reaction; indeed, they are very pleasant and agreeable to patients suffering from pain.

At a meeting of the Obstetric Society of New York, held February 19, 1877, Dr. S. Caro stated that he was called to attend a woman in labor, who was the mother of twelve children, and had had three miscarriages:

He was called in haste on account of a sudden loss of a large quantity of blood from the vagina. Upon arriving he found that the fœtal heart was still beating, the labor advanced to the second stage, and the pulse of the woman very feeble. The vertex presented in the first position. The doctor was not able to satisfy himself with regard to the source of the hemorrhage, until, by inspection, blood was seen oozing quite freely from a ruptured varicose vein near the outlet of the vagina. A flannel compress was wrung from water as hot as could be borne, and the labia being separated, it was applied immediately in contact with the bleeding vessel, causing the instant cessation of all bleeding.

The pains being inefficient, the uterus failing to respond to the use of stimulants, the child was delivered alive by the forceps, when the bleeding returned and was again completely and permanently arrested by the re-application of the hot water compress.

Dr. James Cody, of Wisconsin, says, in the last volume of the Wisconsin State Medical Society Transactions:

Digitized by Google

I have treated two cases of abortion with hot water injections, and with marked success; the flowing was very excessive in both cases; ergot had been given; also ice applied to the lower part of the spine, and small pieces introduced into the vagina. In one of the cases ipecac was given to produce emesis, but all to no avail. In both of the cases the symptoms became alarming; after each pain the blood would flow in torrents, as it were; followed by syncope, the patient for the time becoming pulseless.

The treatment by hot water injections recurring to my mind, although to me a novel procedure, I thought to give it a trial, and to my great surprise it acted like magic. In a few minutes all flowing ceased, and in less than half an hour the fœtus and secundines were expelled, and all bleeding ceased. Both ladies made excellent recoveries.

In eight cases of hemorrhage in which the flowing was very profuse, the hot water injections proved most beneficial; in every case it controlled the flowing. In a few of the cases the treatment had to be persevered in for some time. Many of the cases were of long standing. The injections were used once or twice a day. In profuse menstruation no treatment has been so successful in my hands.

In confirmation of the utility of the practice of using hot water injections for the relief of uterine hemorrhages we have in the *Union Medicale* for June 5th, 1877, the following statements from M. Ricord:

Hemorrhages in general, and mettorrhagies in particular, whatever may be the proximate cause, are, as is well-known, very frequently difficult to arrest. Hemostatics given internally, astringent injections of every description, plugging, etc., generally fail, but one means has almost had infallible success in my hands, viz: The injections of *hot water* at 50° C. [122° F.] carried directly against the cervix uteri by aid of the tube of an irrigator from which the *caoutchouc* canula has been removed.

If these reports be true, and many others that might be adduced of the same character, and we have no reason to doubt their reliability, then certainly an important fact has been developed which will prove a great blessing to a large class of the sufferers that have heretofore been imperfectly and unsatisfactorily treated.

The *Medical Times and Gazette*, May 12, 1877, gives a summary of forty-two cases of uterine hemorrhage, treated by hot water injections. Twenty of them by Prof. Gusserow, of Strasburg, reported by Dr. Runge, and twenty-two published by Jackesh. From these cases some very important deductions are made; the efficacy of the remedy depends upon the etiol-

Digitized by Google

ogy of the hemorrhage. It is of undoubted benefit in all cases of purely atonic hemorrhage, while it seems to have no influence whatever in hemorrhage dependent upon retained placentæ or membranes, until the retained substance is removed. Its effect in hemorrhage from uterine tumor is only temporarily useful, and the same may be said of hemorrhage of cancer. The temperature of the water ranged from 118° to 125° F. Attention is called to the *peculiarity* of the uterine contraction caused by hot water, while the organ becomes smaller and harder, it never become *as* small and hard as after a natural birth.

Prof. William H. Byford, of Chicago, tells me that his experience with the remedy in quite a large number of cases, has been most satisfactory. Prof. Byford uses water at a temperature of 110° F., and carries the injection into the uterine cavity itself, while in most of the cases reported, the stream of water is directed against the cervix.

Dr. G. Jacobi, a graduate of Bellevue Hospital Medical College, now assistant of Prof. Schroeder, of Berlin, writes to his preceptor, Dr. Watterman, as follows:

"I attended last night in the lying-in-hospital, a case of profuse post-partem hemorrhage which I was unable to control with the usual means, and had to send for Prof. Schroeder, who immediately arrested the bleeding by an injection of hot water 50° C., 122° F."

In December, 1877, Dr. Atthill, Master of the Rotunda Hospital, Dublin, read a paper before the Dublin Obstetrical Society, on the treatment of post-partum hemorrhage by the injection of hot water into the uterus. Though but two cases were reported in this paper, they are both what may truly be called crucial cases. One hemorrhage occurred during the fourteenth confinement of the patient, when the muscular fibre must have been very weak in tonicity; the other was partially the result of a fibrous tumor in the uterus, one of the cases in which Gusserow affirms that the remedy is useless.

Digitized by Google

The paper was discussed at length by Drs. Kidd and McClintock, who were entirely without experience in the use of the remedy.

In the London *Lancet* for May, 1878, Dr. Atthill gives an abstract of sixteen cases treated by hot water; no unpleasant symptoms followed in any case, and all with one exception experienced a sense of great comfort and relief. In the one case that experienced pain, it was not certain that the ovum had been expelled; this was one of but two cases of abortion in which Dr. Atthill had tried the remedy, and the result was so satisfactory that the doctor states that he has determined to treat hemorrhage occurring in cases of abortion in a similar manner.

This conclusion is directly opposed to that which Prof. Gusserow deduces from his twenty cases, viz.: that the hot water does not cause uterine contraction, or assist in expelling the ovum; and the control of the hemorrhage, if attained, is only temporary.

Dr. Atthill calls special attention to four points:

1st. The hot water is not used by him until after the failure of cold.

2nd. That it is most markedly beneficial in the cure of weakly, delicate women, and in those in whom profuse hemorrhages having been checked, blood continues to be lost in small quantities, the uterus alternately relaxing and contracting.

3rd. That for its successful application, the tube of the syringe must be carried fairly into the uterus.

4th. That the temperature of the water must not be under 110° and that it may safely be used at 115° F.

Gentlemen: I have not presented you this subject because I could add anything of importance to what has been said, on account of extensive trial of the remedy in my own practice, but because the subject is an important one, and the remedy has been found so uniformly successful in the hands of all who have experimented with it. Not only has the remedy proved successful in post-partem hemorrhage, but in all uterine hemorrhages, except when the placenta remained in utero, &c., not

Digitized by Google

only in uterine hemorrhages, but in all hemorrhages, external as well as internal, which goes to show that its virtue does not depend entirely upon its capability of producing uterine contractions, but that it has some specific action on the blood and blood vessels, as shown by Dr. Caro's case of pudendal hemorrhage, &c. It is appropriate in menorrhagia, mettorrhagia, all non-puerperal as well as puerperal hemorrhages, in abortions as well as bleeding at full term. It seems to be entirely free from danger, as no accident or unfavorable result has occurred from its use, so far as reported.

The water should be used from 110° to 125° F.; better, probably, to commence with the lower, then increase the temperature as the case requires.

It is used by some in the cavity of the uterus, by others only projected against the cervix. Better, probably, to first try the latter; that failing, carry it into the uterus. Atthill, you will have observed, carries the tube nearly to the fundus uteri, guided by the fingers introduced into the os. In obstetric practice, as well as gynecological, I am not an advocate of intra-uterine injections, but in these cases the testimony is so overwhelming that I am forced to endorse the sentiments expressed and the practice adopted.

LACERATION OF THE CERVIX UTERI.

On account of the frequency of the accident, the multiform and grave results following it, and the uniformly favorable results of the operation of Dr. T. Addis Emmet for its relief, I give a few thoughts and suggestions on "Laceration of the Cervix Uteri." Dr. Emmet states, in a paper fully discussing the subject, read before the Medical Society of the County of New York, September 28th, 1874, and published in the *American Journal of Obstetrics*, November 4th, 1874, page 442:

It is now twelve years since I first recognized the importance of this injury from parturition as a cause of subsequent diseases, and the difficulty in relieving certain effects until the cause had been fully appreciated.

Digitized by Google

In my clinics at the Woman's Hospital, I have for years past demonstrated, by an operation, its practical bearing, and have frequently called the attention of the profession to the necessity of surgical interference under certain conditions; yet, the operation is still but little practiced, or its importance appreciated.

He further says:

Previous to my own observations, I believe that no one had placed on record his recognition of this lesion as a cause of uterine disease, or had advocated the necessity for repairing the injury after its reception.

Lacerations of the cervix are of frequent occurrence, and are seldom recognized, even at the time of labor.

The tissues are then so soft that without the rent has passed beyond the cervix into the vaginal and connective tissue, it can scarcely be detected by a mere digital examination, and will escape observation unless an unusual amount of hemorrhage should exist as a consequence.

With regard to the frequency of this accident, I can say that since my attention was called to it in personal conversation with Dr. Emmet, and his demonstration of the operation, some two years since in the Woman's Hospital of New York, I have found that a large per cent. of my patients who were suffering from granular and follicular degeneration of the os and cervix, and those who were supposed to have hyperplasia of the cervix uteri, were suffering from laceration.

In the discussion which followed the reading of Dr. Emmet's paper, Dr. Hanks of New York, says:

I took occasion this morning to consult the record-book for diseases of women in the Demilt Dispensary, where I am one of the attending physicians, believing it would confirm the conclusions drawn by the author of the paper this evening. I have not been disappointed. Many of us have not realized that this lesion described by Dr. Emmet, is a common one. During the five months ending August 31st, 1874, I treated in the department for diseases of women, at the Demilt Depensary, 254 cases. Deducting 25 which were not truly uterine, leaves a total of 229 *strictly* uterine. Of these 19, or 8 4-10 per cent. were suffering from laceration of the cervix uteri. In 4 of these 19 cases, there was sub-involution of the uterus; in 9 there were granular erosions, more or less severe. In three cases, displacement, occasioned more or less directly by the laceration of the cervix. Thus we see that these statistics emphasize and corroborate the conclusions deduced this evening by Dr. Emmet.

Digitized by Google

This condition is best recognized by the touch, second by the use of the vulselum or two uterine tenaculi, taking hold of the anterior and posterior lips and bringing them together whilst the cervix is exposed by the speculum, giving the appearance of a sound cervix. Dr. Emmet speaks of his first appreciation of this condition, in the following language. "After having despaired of curing a case of an erosion, extending about two inches in diameter, over an enormous cervix, while making a digital examination one day, I was puzzled to account for the greater width of the cervix in comparison to that of the body beyond, and a condition I had for the first time appreciated. I placed the patient on her left side, and with Sims' speculum brought the cervix into view. I drew the posterior lip forward towards me with a tenaculum, but with no special purpose, when I was surprised to observe that it had decreased to nearly half its previous size. On lifting up the anterior lip with a tenaculum, in the other hand, so as to bring the two portions in approximation, the outline of a cervix presented of nearly a normal size. The difficulty was at once apparent, for the parts had rolled back within the uterine canal, and a deep lateral fissure became evident which extended on each side entirely through the cervix and beyond the vaginal junction. On separating the flaps and forcing them back to their former position, I saw the tissues gradually roll out and the cervix again present its previous appearance; there could then be detected no appearance of laceration, and with the reduplication of vaginal tissue over the sides of the uterus as I have already described; the cervix presented a normal length above its apparent junction with the vagina. The remedy at once suggested itself. The operation was performed with the aid of my assistant, Dr. G. S. Winston, and I believe Dr. T. G. Thomas was also present."

He further says: "I have performed this operation nearly two hundred times in my private and public hospital practice. I can, in truth, state with the proper preparatory treatment and the requisite care after the operation, that it has never been performed without ultimate benefit."

Digitized by Google

In this connection, I desire to state that I have performed the operation three times in the last three months, once on a bilateral and twice on unilated lacerations, with the most gratifying *success*. In regard to the comparative frequency of the different forms of lacerations, which are through the anterior lip, posterior lip and unilateral and bilateral, I must essentially differ with Dr. Emmet. The Doctor has found that central lacerations were most frequent, and *that* through the anterior lip more common than that through the posterior. The Doctor says that the central lacerations generally heal rapidly, leaving scarcely a cicatricial line to mark their course. This is due to the fact that with the necessary recumbent position of the patient, which is enforced for some time after labor, the raw surfaces are kept in close contact by the pressure of the lateral walls of the vagina until they have become firmly united.

The operation devised by Dr. Emmet is to freshen or denude the surface of the torn parts and bring them together with the interrupted silver-wire suture. The impossibility of healing and keeping healed these lacerations is sufficient cause for surgical interference, for although you may succeed in healing them, they will inevitably recur in a comparatively short time.

The conditions favorable to operation are freedom of the utero-pelvic organs from the presence of acute inflammation, or the immediate results of an inflammation, and the general health of the patient as good as you can get it.

The Doctor says: "So long, however, as there can be detected by pressure from the finger, any tenderness in the connective tissue, it is not safe to operate."

PREPARATION OF THE PATIENT FOR THE OPERATION.

From what the Doctor says, the following rules may be deduced:

1st. A vaginal douche twice a day, of water at 100° F.

2nd. Lift the uterus off from the post-vaginal wall with an india-rubber inflated ring pessary, of a proper size.

Digitized by Google

3rd. If laceration of the perineum exists, support the pessary with a T bandage.

4th. Apply Monsel's salt once a week, and a tampon of cotton, saturated with a solution of tannin and glycerin, every other day. This treatment to be kept up for at least one month previous to the operation.

5th. Operate just after the menstrual period.

My preparatory treatment has not differed essentially from this in principle, but in detail it has somewhat, and inasmuch as my operations have been uniformly successful, I will state my practice in the preparation of patients for this operation.

1st. I give tinct. ferri chloridi, combined with quiniæ sulph. if the patient is debilitated. The iron serves to increase the plasticity of the blood, and give tone and vigor to the entire system.

2nd. Place the uterus in a comfortable position and at rest, with any appropriate pessary.

3rd. Apply to the ulcerated surface a saturated solution of iodine in creosote or carbolic acid, once a week.

4th. Introduce every third or fourth day, a glycerin tampon, using the hot douche twice a day in the interim between the removal of one tampon and the introduction of another, which may be one or two days.

The advantage of a Hodge, Smith, or other hard rubber pessary over soft rubber inflated, is that the application to raw surfaces and the introduction of the tampon may be made and continued without removing the pesssary. Of course, if plethoric follicles exist they should be punctured, and perhaps touched with a nitrate of silver point.

5th. Operate on the third, fourth or fifth day after the menstrual flow ceases.

6th. Move the patient's bowels, the night before, or on the morning of the operation, with a mild laxative.

OPERATION.

This operation is called by its author *trachelorrhaphy*, from two Greek words—a neck, a suture.

Digitized by Google

The patient is placed in "Sims' position," in front of a good light. Sims' speculum introduced, exposing the cervix. The neck is drawn forward and ligated at the vaginal junction by a twisted wire drawn through a double canula, and fastened so tightly as to interrupt the circulation, in order to prevent hemorrhage, which is sometimes profuse during the operation.

This instrument which I now exhibit to you is called by its author, Dr. Emmet, the *uterine tourniquet*, and was devised by him to take the place of the wire ligature. It is a good instrument, but as the cervical congestion disappears during the operation, it is liable to slip down toward the labia, so as to be perfectly useless to check hemorrhage, and perfectly successful in interfering with the operation. I would suggest that a little point or nodule be placed on the inside of this watch spring, at the extremity of its curve, to give it a slight hold on the mucous membrane, and thereby prevent its slipping. Of course, this projection should be slight, as the tissues intervening between the instrument and the peritoneum, in the *cul-de-sac* of Douglas, are in some cases very thin; too great a projection would be likely to injure this membrane, and thereby produce dangerous results.

This instrument is placed around the cervix at the vaginal junction, when this sharp point is projected into the cervix to prevent slipping. In order to facilitate its application, you will take the double tenaculum or vulselum, and taking hold of the anterior and posterior lips, bring them together, draw down the uterus and slip the tourniquet over them.

The torn parts are then freely denuded with the knife or scissors, being careful to go to the bottom of the fissure, and remove every particle of surface excepting a line in the centre sufficiently wide to form a normal cervical canal; this need not be more than a quarter of an inch where the uterus is of nearly normal size, but where it is materially enlarged, you will expect it to diminish in size after the operation so that it should be left in this case wider, say three-eighths of an inch.

Care should be observed in the denudation at the external

Digitized by Google

angle of the fissure, in order to avoid the circular artery which is not far from the vaginal junction.

PASSING THE SUTURES.

The doctor says: "This is the most difficult step in the operation, in consequence of the great density of the diseased uterine tissue, and the mobility of the organ.

"The first suture should be passed close along the bottom of the fissure, and withdrawn just at the edge of the undenuded strip left to form the canal (cervical), again to enter at a similar point in the opposite lip, so as to make its exit on the vaginal surface of the posterior flap, corresponding with the first point of entrance. From three to four sutures are generally needed on each side. Before securing the sutures on one side, those on the opposite side must also be introduced, or great difficulty will be experienced. Bleeding should be arrested by twisting the vessel."

The same plan is followed in securing the sutures that is recommended by Dr. Sims for closing vesico-vaginal fistulæ.

After twisting the wire down upon the shield, before removing the forceps from the wire, the end should be bent down to one side over a uterine tenaculum, used as a fulcrum, when it is cut off with the scissors about one-fourth to three-eights of an inch from the cervical surface.

The only difference in my method of operating and that just laid down, is, in passing the sutures. I pass the sutures transversely across the fissure, which I think is much more easily accomplished, and just as good, because perfect results follow.

The same general treatment is pursued now that is recommended in fistulæ:—horizontal position, constipation of the bowels with opium in some form, catheterization, fluid diet, etc. After the third day I have the vagina washed out with simple warm water daily; if the discharge is offensive (usually there is no discharge), I carbolize the water used, slightly.

The sutures should be removed on the eighth to the twelfth day, in the same manner that is directed in fistulæ, being careful to cut the wire nearest to you, and to draw it out over the

Digitized by Google

pulley or fork, so as to pull the parts together, rather than apart, remembering that the newly formed cicatrix is very frail, and easily yields to traction. The patient should remain in the recumbent position for a week or ten days after the operation, if possible.

An appropriate pessary may be used after one or two weeks, to keep the uterus in normal position, and to prevent friction on the cervix, should it be in a displaced condition.

I am informed that Dr. Emmet has written a more recent article on this subject, and that the points he makes are:

1st. That the failure of so many in the operation is because of a want of sufficiently thorough preparatory treatment. 2nd. The operation being performed when cellulitis is present, or the immediate results of a cellulitis or other inflammation is present. 3rd. From the failure to remove all cicatricial tissue present, which will never allow of healing.

Dr. E. C. Dudley, formerly house surgeon of the New York Woman's Hospital, now of Chicago, reports a case and gives several geometrical drawings, showing the different modes of passing the sutures, and the entire mechanism of the operation. In the January number of the *New York Medical Journal*, 1877, Dr. Dudley formulated the name "trachelorrhaphy."

In the discussion of the paper of Dr. Emmet, had before the County Society of New York, in 1874, Dr. Sims said:

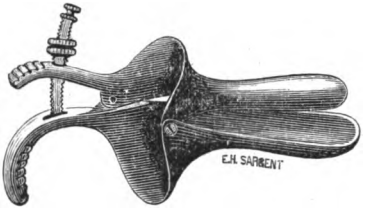
"When I went abroad in 1862, amongst the patients I turned over to the care of Dr. Emmet was the lady whose case formed the basis of this paper. She belonged to the upper walks of life, and had been under my charge for twelve or eighteen months, and nothing else could have cured her.

"I have performed the operation often enough to speak in positive terms of its value. The discussion of the question must of necessity be one-sided; there can be no objections, no opposition to the operation. We must accept it as Dr. Emmet has given it to us. We can't modify the operation; we can't change it; we can't improve it, for it is perfect. Perfect in its method, perfect in its result. We owe to Dr. Emmet, for this valuable contribution to uterine surgery, a

Digitized by Google

great debt of gratitude. Like all new operations, it is likely to be abused, but the time will soon arrive when it will assume its place in the foremost rank of useful improvements."

Mr. President, my sole object in bringing this subject before the Society at this time was to render what assistance I could in popularizing one of the most, if not *the* most important and useful operation in uterine surgery.



FITCH'S SPECULUM.

GENTLEMEN: I now take the liberty and have the pleasure of presenting to you for your consideration a *new bivalve speculum*, a modification of somebody's modification of the Cusco speculum. I have the honor to be the present *modifier*.

I use the bi-valve speculum in all ordinary examinations and treatment, believing as I do that there is no speculum so conveniently used, none that present the cervix uteri more clearly to view and facilitates the use of the sound, and in fact presents all the parts to better view, than a well devised and well fitting bivalve speculum.

It is impracticable, of course, to examine satisfactorily all cases with any single style or sized speculum, so that he who would treat successfully gynecological cases must have a variety of speculæ.

My object in devising this instrument was to overcome certain objectionable features existing in nearly all valvular instruments, and obtain one that would be suitable for the greatest number of cases, which I flatter myself I have accomplished in this speculum. It is long enough for all cases, it is short enough for all cases, and broad enough for all cases; the

Digitized by Google

only cases in which it will not serve to the best advantage are extremely small vaginæ, cases of vaginismus, and in virgins; yet I have used it in cases where the small Storer would invariably give pain, without exciting the least complaint. These were cases of irritable and inflamed uteri, where the straight and sharp extremity of the anterior blade of the Storer would strike the tender anterior wall of the uterus at a right angle. My blade is so rounded that the pressure is brought to bear on a broad surface.

The success of this device has far exceeded my expectations, which I *must* say were not *gigantic.*

None have used the instrument, so far as I know, that have not been greatly pleased with it, and my satisfaction in its use has been complete, and so far, I have not been able to suggest an improvement.

Thus far there has been but one size of the instrument made. This size is found so generally applicable that it is thought best by the manufacturer, Mr. E. H. Sargent, of Chicago, not to make any other size.

The posterior blade is 4½ inches in length, the anterior 4⅛, giving ⅜ of an inch additional length to the posterior blade. This I have ascertained by experience to be about the right proportion in length. The posterior blade is 1⅜ inches wide near its distal extremity, the anterior blade 1 3-16 of an inch broad at the same point, thus allowing the anterior to fall into the cavity of the posterior blade in such a way as to materially lessen the size of the instrument at that point, thereby facilitating its introduction. The antero-posterior diameter of the proximal extremity of the instrument when closed is 2 5-16 inches, giving a flaring or bell shaped opening, thus facilitating the introduction of the sound, the tampon and other medicaments. The blades are rounded in every direction, more especially at the anterior extremity, both for the purpose of facilitating its introduction, and preventing irritation and injury to the parts by distributing the pressure over as large a surface as possible. It will be observed that this

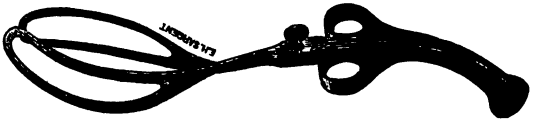
Digitized by Google

instrument has no fenestrum in the vulvar extremity of the anterior blade. This is purposely omitted, as I consider it in every way a superfluity—a nuisance. It is usually placed there to facilitate the introduction of the sound, which it does not do, but on the contrary is a hindrance, an obstruction; for almost invariably the walls of the vagina or urethra fall through and more than occupy the entire space. Again, in the introduction of instruments through the speculum we are liable to inflict pain by striking this exposed membrane, and in the introduction of the tampon, an application now-a-days so commonly made, this membrane is irritated. Remedies carried through the speculum, destined for the cervix, os uteri, or endometrium, are liable to touch the exposed membrane and excite inflammation. Hence, a principle: in the treatment or medication of the cervix, os uteri or endometrium, the more vaginal mucous membrane you can cover, and thus protect, the better. And the last, though not least, of the objections to this fenestrum is the injury and pain often inflicted on the prolapsing walls of the vagina through the fenestrum when the instrument is removed.

One of the greatest advantages of this instrument is the character and position of the handles, as you see they are upon the lateral aspect of the instrument lying (when introduced) along the thigh of the patient, giving you full control of the instrument, enabling you to elevate, depress, or carry it in any direction, avoiding the difficulties attending the use of the anterior or posterior handles, which are not of inconsiderable importance. First, in neither can you elevate or depress to any considerable extent the point of your instrument; for instance, with posterior handles you cannot engage the cervix of a retroverted uterus without placing the handles anteriorly, which you cannot well do if the blades of the instrument are of unequal length, and *vice versa* with the anterior handles. Again, it is not very agreeable for the operator, and much less so for the patient, to be fingering around the perineum and anus in the posterior handled instrument, and the clitoris and

Digitized by Google

meatus urinarius in the anterior handled instrument. Again, you will see that the set screw is upon the anterior handle, by taking hold of which you can remove the instrument and regulate its closing, as you should always do in removing a valvular instrument, in order to prevent painful pinching.



FITCH'S OBSTETRIC FORCEPS.

GENTLEMEN:—The forceps which I now present you is my modification of the original Hodge instrument. The blades are designed to be the same in every particular, but the handles, as you will see, are essentially different, and it is in this particular that I claim an important improvement. I have in my possession a Hodge forceps which I have used with most gratifying results for the past quarter of a century. The principle objection to it, in my mind, is the form and character of the handles. The Hodge handles are small, and extend on a plane with the shank of the instrument, so that they cut or bruise the hand in exercising traction, leverage or compression. Again, they are necessarily grasped, and the tractive power applied, at a great disadvantage, the forearm extending at a right angle from the handles and from the line of traction, unless the hand is painfully abducted. In my instrument, you see readily that these objections are overcome. The pistol handles give you a grasp at right angles with the line of traction, and the forearm extending in the line of traction gives you the best possible control of the instrument. The old forceps are much heavier than the modern, the former weighing nineteen and a quarter ounces, the latter only fifteen and a half ounces. They have gradually been reduced in weight and

Digitized by Google

strength, undoubtedly by the furor which now prevails in the profession for light and airy instruments, which are, in my opinion, as useless as they are beautiful. In cases where very slight traction is required, the light forceps will answer the purpose, but no better than the heavier ones, for in these cases there is usually plenty of room for the heavier forceps; hence, the very cases for which they are commended are treated just as successfully with the strong forceps, thus relieving the practitioner from the necessity of carrying around with him numerous forceps for use. Fordyce Barker says, in regard to the obstetric forceps, "*strength is safety; weakness, danger.*"

The argument against the strong forceps is its great power. Says Playfair: "The existence of power does not involve its use, and the stronger instrument can be employed with quite as much delicacy and gentleness as the weaker." Says Prof. Hodge, in his System of Obstetrics, page 252: "Certainly no man ought to apply the forceps who has not sufficient discretion to use no more force than is absolutely requisite for safe delivery; if, therefore, there is more power at command, he is not obliged to use it; while, on the contrary, if much power be demanded, he can, within the bounds of prudence, exercise it by the long [or strong] forceps, and of course the whole force demanded can be much more delicately, and at the same time efficiently applied, and with more safety to the tissues of the child and its parent."

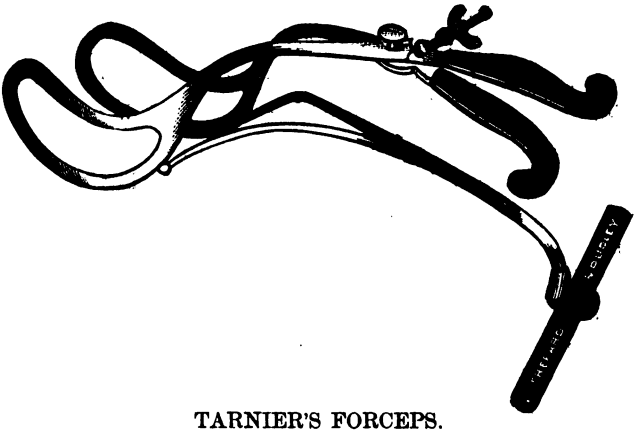
It is better for a physician to have one instrument that is capable of performing all the functions of the obstetric forceps than to be cumbered with a great variety. The long forceps can be used just as successfully as the short forceps in all cases where the latter is applicable.

The forceps act as tractor, lever and compressor. Now, in order to be a successful tractor, it must be strong enough to be both a compressor and a lever, for in order to act as a tractor, it must have sufficient strength to allow compression enough to make

Digitized by Google

it hold on to the head, and the power that will allow that will make a successful *lever*. The blades of this instrument are, in the curved portion, 7¼ inches long, the fenestræ extending nearly the whole length of the blades and slightly widening from the proximal to the distal extremity; they are 1⅛ inches in diameter. The extremities of the blades are one-half an inch asunder when the handles are closed, and 2½ inches at their widest part. Between the curve of the blade and the lock is a straight portion, the shank, measuring 3½ inches. The blades have a strong pelvic curve, with the points slightly divergent, which favors introduction with a small os, and prevents painful or injurious compression of the fœtus at that point; at the same time it does not lessen materially the hold on the child's head. The handles, as you will see, are turned in the opposite direction to the blades, giving a pistol handle, and the whole instrument a sigmoid appearance. The handles are 7 inches long on their convex surface, the chord being about 5½ inches. They are covered with wood to lessen the weight of the instrument, and are so shaped as to give more ease and more power in traction. Being grasped with the right hand, two of the fingers of the left hand may be passed through the rings at the distal extremity of the handle, with the palm of the left hand resting on the anterior surface of the handle and the other hand, which gives you the greatest possible control of the instrument in compression, traction and leverage, all of which manipulations are required to a greater or less degree in every instrumental delivery. The handles of the instrument, taking a posterior curve, do not interfere with the application in any position of the patient, when the head has entered the pelvic cavity. When necessary to apply it at or above the superior strait, the patient should always be placed in the lithotomy position at the edge of the bed, so that the curve of the handles will not be objectionable under any circumstances, and in all cases will give you the best possible command of the instrument.

Digitized by Google



TARNIER'S FORCEPS.

GENTLEMEN:—I now take occasion to present you with a novel instrument, which is creating great interest and warm discussion in Paris, and since the return of Prof. Fordyce Barker, from France, has excited some interest in New York city. It was presented to the New York Academy by Prof. Barker, on the 18th of October, 1877.

The doctor had the opportunity of seeing the author of the instrument demonstrate its use and advantage, in Paris, on a caoutchouc manakin with a fœtus. Dr. Barker had had but one opportunity to test it on the living subject, and that on a Chicago lady.

He states that he applied it much easier than he could have done any other forceps, but with no other result than that of changing a *vertex* into a *face* presentation.

The forceps is called the *forceps à aiquille*, or needle-forceps, in the same sense as we speak of the needle of a compass.

This instrument was devised by M. Tarnier, surgeon-in-chief of the Maternity Hospital, at Paris, France, and is known also by his name.

Prof. Barker says that M. Tarnier claims that when the head is at or above the superior strait, with the forceps in ordinary use it is impossible to make traction in the exact axis

Digitized by Google

of that strait, because of the resistance to the direction of the handle of the instrument by the perineum. It is necessary to make traction in a line somewhat forward of the axis of the superior strait; hence, a certain amount of injurious force is necessarily wasted against the posterior surface of the symphysis pubis. In Tarnier's instrument this is obviated by a posterior curve in the blades, which permits the traction to be made in the axis of the superior strait without making undue pressure backwards on the soft parts.

You will observe that traction is made by means of independent rods which are attached to the posterior border of the blades of the instrument, and terminate in a cross-bar just below the handles. [The application was here demonstrated.] The blades are locked, and the amount of pressure is regulated by the cross-screw, "a feature of the instrument," says Prof. Barker, "which I wish could be obviated, because I believe that the degree of compression should be always perceptible, and controlled by an intelligent hand."

The foregoing criticism I most fully endorse.

When the instrument is applied to the fœtal head at the superior strait, traction is first made downwards and backwards, but as the head approaches the cavity of the pelvis, the handles of the forceps begin to rise, thus indicating in what direction traction should be made to correspond to the axis of the pelvis through which the fœtal head is passing. As the handles rise the tractor is brought up to them, and so we have an automatic indicator, which gives direction to the force of the operator.

Personal conversation with Dr. Barker in regard to this instrument during his visit in Chicago last summer, and seeing his enthusiasm in bestowment of praises on the instrument, has led me to have this one ordered from New York for the special purpose of presenting it to you at this meeting, for your inspection. Personally, I must say, I fail to see the great advantage over the long forceps of Hodge, and many other forms, that this instrument possesses.

I have many times applied the Hodge forceps to the fœtal

Digitized by Google

head above the superior strait, and usually with ease; neither do I believe that it is so difficult to use traction in the right direction by these forceps as would be indicated by the claims of M. Tarnier. Other considerations will render the instrument less attractive for general use. The mechanism is intricate, and rather complicated, requiring the hand of an expert to manage them successfully. Again, the instrument is too expensive to be purchased very generally by the profession; price, twenty-four dollars. The name of obstetric forceps is legion. Dr. Barker exhibited at this meeting sixty-seven different makes of forceps.

PUERPERAL ECLAMPSIA.

CONTRIBUTION TO THE REPORT ON OBSTETRICS.

BY E. R. WILLARD, M. D., ONE OF THE COMMITTEE.

In this paper we present a few facts and thoughts upon the etiology, pathology and therapeutics of puerperal eclampsia. There seems to be a great diversity of opinion in regard to the cause of this malady, among the more prominent of which we name albuminuria, anæmia of the brain, cerebral irritation, and hyperæmia cerebri, or cephalæmia.

The present generally accepted theory of its causation is that of Bright's disease of the kidneys—albuminuria. In our own investigations upon the subject we stumble upon facts like the following, which tend to weaken our faith in this hypothesis: First, very few persons who have acute Bright's disease are ever subject to convulsions. That filtered urine can be injected into the veins of animals without evil consequences following has been frequently shown, therefore uræmic intoxication can but seldom be produced by any normal constituent of the urine in the blood in excess.

To overcome this difficulty, it was found necessary to change the urea into carbonate of ammonia, which later experiments tend to disprove.*

*Roberts' Renal Diseases, 1872, page 430.

Digitized by Google

It is also found that in the commencement of uræmia there is a diminution in temperature, while at the onset of an attack of puerperal eclampsia there is a marked elevation in temperature, and as we approach the end of a fatal case of uræmia the temperature falls very low, while the reverse is the case in puerperal eclampsia, as the temperature rises very high as we near the terminus of a fatal case.

That Bright's disease, as a cause of puerperal eclampsia, is at the present time over-estimated, there is no doubt. That there is a condition similar to chronic kidney disease produced in pregnancy, with an increase of water, fibrin, white corpuscles and urea in the blood, all admit. In respect to the latter element, however, we find no cases recorded where the increase of urea in the blood of pregnant women was found to be in excess of the standard for good health as laid down by physiologists. This normal standard is sixteen-thousandths of one per cent.,* which may be increased twenty per cent. and the health not be impaired, while in true inflammation of the kidneys, whereby the excretion of urine is suspended, the urea may be found in the blood to the extent of one-tenth of one per cent.

That a temporary appearance of albumen in the urine is any certain indication of Bright's disease is a question, as the presence of albumen in the urine is not a constant phenomenon of eclampsia.

There are twenty per cent. of women in pregnancy who have albumen in the urine, and out of these there are but three-fourths of one per cent. who have convulsions, therefore it is very doubtful whether albumen in the urine can be regarded as the predisposing cause in any case whatever, as we know that albuminuria not accompanied with pregnancy seldom results in convulsions.†

The more recent theory of Traube that eclampsia results from the peculiar hydræmic changes in the blood incident to

*Picard—Milne Edwards, Vol. I., page 297.
†Less than five per cent.—[Flint, N. Y. *Medical Journal*, Vol. IX.

Digitized by Google

pregnancy, thereby producing cerebral anæmia, is a theory that we are not quite ready to admit, for the red corpuscles are diminished less than seven per cent. in pregnancy, while in chlorosis they are diminished frequently as much as sixty per cent. below the normal standard. Carpenter says they may be reduced as low as thirty-seven per cent., and still the health remain good. Again, when we take the volume of blood into consideration, we do not find convulsions to supervene in cases of post partum hemorrhage, in placenta prævia, or in any other exsanguinated condition of the system whereby the brain is deprived of blood. Neither do animals that we bleed to death die in convulsions, unless the nervous centres are injured as well. These facts can be easily verified any day by visiting a slaughter house. Take, for instance, the killing of hogs by sticking—severing the carotids; they die almost without a struggle. Cattle the same, unless they are first knocked in the head before bleeding; if so, we have more or less spasmodic action of the muscles. On the contrary, if they are bled to death, whereby the brain is made anæmic without injury to the encephelon or spinal cord, they die as do swine or the domestic fowl when so treated, like the human species in syncope, with perfect loss of sensation and motion. We are aware that these views do not accord with some recent researches of Brown-Sequard to the effect that epilepsy is preceded by an anæmic condition of the brain, or borne out by the records of those post mortem examinations which reveal the brain to be in the same exsanguinated condition.

As to the other propositions of congestion and cerebral irritation, we know that so far as the first is concerned, all experimentations tend to show that pressure upon the brain, of whatever kind, produces paralysis, and not convulsions; but we must remember that these post mortem appearances are always from phenomena of that extreme nature that relief only comes with death, while in convulsions the cause is of so evanescent a nature that should it arise from a plethoric or congested condition of the brain, it very soon passes off, and the spasms are thereby relieved for the time. May not this ceph-

Digitized by Google

alæmia produce upon an already excitable condition of the nervous system that amount of cerebral irritation sufficient to cause convulsions? * Let us look at this latter proposition in the light of therapeutics, and see what this kind of an investigation may reveal, for here it is that we find a perfect agreement among all the writers upon this subject, in this, that the main remedies in this fearful malady are those powerful exsanguinators of the brain, so well known to the profession as the anesthetics, the bromides, chloral, belladonna; quinine, which "contracts the middle coats of blood vessels;"† opium, that also contracts the arteries and thereby lessens the blood in the brain; veratrum veride, a most excellent remedy, it controls the force and frequency of the heart's action, and thereby lessens the pressure of blood, as well, if not better than anything we have to offer, unless it be blood-letting; that is, provided it is given in sufficiently large doses, say from five to thirty drops of the U. S. tincture every twenty minutes, half hour or hour, until the pulse is reduced below its normal standard; then it is to be maintained by smaller doses at longer intervals, as required.

What now shall we say in respect to venesection, in opposition to Braun and all his followers, who recognize uræmia and its consequent anæmia as the pathological basis of this frightful assemblage of nervous phenomena which characterize an attack of peurperal eclampsia? ‡ or Traube, Rosenstein, Schroeder, Prioleau, and many others that might be mentioned, who, in the words of the latter, hold that "the anæmia which generally accompanies pregnancy is the predisposing cause of eclampsia, the sudden arterial anæmia of the encephalon, the immediate cause. Holding such strong opinions, we must be adverse to the use of the lancet."

When such men as Plairfair inform us that "the mortality has admittedly been much lessened since the indiscriminate use of the lancet has been abandoned," they forget in this

*Brown-Sequard, *Chicago Med. Journal and Examiner, page* 455, 1878.
†*American Journal of Obstetrics*, Vol. 9, No. 3; R. Campbell.
‡Brown, "*Uræmic Convulsions*," page 147.

Digitized by Google

connection to speak of those powerful exsanguinators of the brain just enumerated above, that they have had anything to do with this mortuary report. While we are upon this part of the subject it might be well to enquire somewhat into these statistics, from which we learn that sixty-eight per cent. of the cases treated by venesection persisted in getting well, notwithstanding the present theory of the already anæmic condition of the brain as the exciting cause of the convulsions. And what seems still more wonderful is that after copious blood-letting, followed by the bromides, anesthetics, chloral, veratrum viride and such other remedies as produce an exsanguinated condition of the brain, eighty-nine per cent. should recover.

Schroeder says: "A short time after venesection we shall expect to find the former blood pressure in the arterial system, but the blood far more watery than previously, and consequently the danger of the disease will be increased." This no doubt would happen did his hypothesis of the disease prove to be correct, or should we withhold those remedies which contract the vessels, and thereby hold the volume of blood in abeyance.

The difficulty of distinguishing between anæmic and plethoric conditions of the brain in eclampsia is very great; the detection of the venous hum, or ophthalmoscopic examinations, are very difficult during an attack of convulsions, and so far the records are too few to be of any value. One phenomenon, however, that has been frequently noticed in these examinations is œdema of the retina, and presumably, therefore, of the meninges, as the optic nerve and pia mater are so intimately connected.*

Should this latter condition prove to be the true solution of this vexed question, may not vinesection, by its producing rapid absorption of the effused fluid into the vessels again, and the contraction of the vessels upon the column of blood by means of the bromides, and all that class of remedies that produce that effect upon the vessels, thereby preventing further

*Axel Key, of Stockholm.

Digitized by Google

effusion, be the true reason of the therapeutic action of this most approved course of treatment?

In conclusion we would state that as a great majority of the cases occur during confinement and in primiparæ,* a very important question comes up; that is, as to the induction of premature labor in those cases where convulsions supervene previous to the beginning of labor pains, and where the os is undilated; or should we interfere after labor has commenced by forcible dilitation of the os, or by version, the application of the forceps, craniotomy, or any procedure that would be likely to prove a source of irritation to the patient?

It seems that the weight of authority is against any operative procedure previous to the onset of labor. There is no doubt, however, but that it should be completed as quick as possible after once begun, and with our present resources of chloroform, chloral, ether, etc., assistance can be rendered without being a source of irritation,—a most important desideratum.

Again, what guides have we, other than the fullness of the pulse and flushed face, to indicate bleeding? Would the temperature be of any service to us? In respect to the latter condition, there is no doubt but what this should be our chief guide, and should the temperature be high, the case depends upon passive congestion of the brain, meninges and kidneys, or upon reflux uterine irritation, and calls for active depletory measures.

PRACTICAL SUGGESTIONS CONCERNING OBSTETRIC PRACTICE.

BY DR. ELLEN INGERSOLL.

I have not aimed at writing a scientific article; most, if not all I have to say is well-known to the members of the profession. But that which is well-known is not always well practiced, and I wish to notice a few points, attention to which will give great relief to patients, and perhaps save much anxiety to the attending physician.

*Ninety-six per cent.—*Hodge.*

Digitized by Google

I limit myself to what I usually find most neglected in cases of ordinary uncomplicated labor and convalescence.

ATTENTIONS DURING AND IMMEDIATELY AFTER LABOR.

In cases of primiparæ especially, but in all cases where the first stage of labor is slow, the os rigid, or with tense, whip-cord edge, where the patient is restless and pain is excessive, I use a rectal suppository.

℞ Pulv. opii. et ext. belladonna, āā gr. j.
Ol. Theobrom, - - - q. s.
Ft. suppos. - - - - I.
M.

These will ease pain, aid in dilatation, and except in rare cases, even where opium is used alone, will aid in the progress of labor, so that when the expulsive pains begin the patient is in a condition to make the best use of them. I wish to speak of the necessity of *expulsive effort only* from the inception of a pain till its *acme* is reached. Many women are wearied and discouraged beyond measure with constant pulling and bearing down efforts, often begun before they can do the least good, and continued without regard to the character of the pain or stage of dilatation, until exhaustion more or less complete ensues. The testimony I often hear is "Oh! why didn't some one tell me before, what to do, and when to do it." In cases of primiparæ, ether administered during the last pains I find to be highly beneficial, not only aiding in dilatation of the perineum, but allowing the accoucheur to hold the head during the last pains, and thus be able to deliver slowly. The plan recommended by Dr. Wm. Goodell, of Philadelphia, of delivering with the finger in the rectum and drawing the perineum forward, I have often found of great service. Lacerations of the perineum are more frequent than is supposed; as a rule, unless the laceration is great it is not even noticed; some physicians say they never had a laceration. I think they never examined.

The examination was made of those who attended the large dispensary gynæcological clinics, at the hospitals for women in Boston and Philadelphia.

Digitized by Google

At least 75 per cent. of multiparæ were lacerated to a greater or less extent. The remedy is easy, and within the reach of all; if the laceration is slight, the application of serrefines is sufficient, and *should be used.* If of great extent, the immediate operation for laceration of the perineum should be performed. I have always used silver shotted sutures with ivory bars, but if necessary, should operate with common needle and silk. I usually remove the sutures in from five to seven days.

If Crede's method is employed in the delivery of the placenta, the uterus can be readily felt under the hand, and the patient should never be left until it is firmly contracted. If this were always done, we should have fewer post-partum hemorrhages, and we should not have the report of several cases of *inversion* of the uterus, *unknown* till weeks and months after delivery, *vide Obstetrical Journal* of Great Britain and Ireland, Nos. March and April, 1877.

That the patient should be left clean, dry, and at rest I hope it is not necessary to speak of. Trained nurses are few, and the doctor should see and *know* that his or her directions have been carried out.

PUERPERIUM.

The child is born—the mother is doing well, but should she pass out from under the care of the physician for the next ten days? No! The visits should be daily until lactation is well established and sub-involution well progressed. It should be an *ascertained fact*, not *guessed at*, that the *lochia* is normal in its character, its decrease of quantity, color and odor, and as an efficient aid to this and cleanliness also, I would have warm carbolized water, at least a pint, poured over the vulva twice or three times daily. This pouring, besides cleansing the part and relieving the bruised and sore feeling, aids in promoting urination, and the catheter is seldom required. Also, where suitable conveniences are to be obtained, I use vaginal injections of weak carbolized water, once at least daily—oftener if required. The sense of comfort to the woman is great, and the danger of puerperal fever or other forms of sceptic poisoning greatly lessened.

Digitized by Google

The condition of the uterus should be ascertained, by abdominal palpation daily. If after the tenth day it can be felt above the pubes, or if the lochia continues, or even is at times of a bright red color, *sub-involution is not going on properly.* If after pains are severe, I find rectal injections of

℞ Ext. Ergot Fl. - f ʒ j.
Aqua, - - - f ℥ j.
M.

to control them more perfectly than anything else, or I often give in connection with this, the following prescription:

℞ Morph. Sulph., - gr. j.
Aq. Camph., - - f ℥ ij.
M. S. Teaspoonful every two hours.

I allow a woman from the first a generous diet, milk, fruit, oat-meal soup, and on second or third day, meat. The bowels should move on the third day, unless there is some decided contra-indication, and I seldom find it necessary to use any laxative; if possible I always have an injection given before the movement. The common practice of giving ol. ricini is, I think, hurtful in many cases, unpleasant in all. It tends to produce constipation, and in those who have previously suffered from hemorrhoids it aggravates their trouble. In accordance with Fordyce Barker's recommendation, I have found aloes of great use in this class of cases; many wondering why, as they had been troubled so with piles at every previous confinement, they had for this once escaped; gr. j daily I usually find sufficient.

LACTATION.

The function of lactation is generally established between the second and fourth day. In regard to the generally expected milk fever, either with or without preceding chill, my experience is that this need be the *exception*, and not the rule. If the suggestions which I have offered be carried out, viz: quiet, vaginal injections, movement of the bowels, good diet, not one woman in twenty will have milk fever. When the breasts begin to fill and feel heavy and painful, a broad

Digitized by Google

bandage of flannel or toweling pinned tightly over the chest, coming up well under the arms, will give great relief. If the breasts are tense and painful, besides keeping them well nursed out, I place a layer of cotton batting, saturated with ol. olivæ or with lin. camphoræ, and bandage tightly with roller bandage or flannel binder. On removing the bandage, in the course of two or three hours, if any hardness remains, the breasts should be rubbed soft with ol. olivæ, and the bandage again be applied.

Who has not desired a specific for sore nipples?

Preventive treatment during the latter months of pregnancy should always be practiced. The nipple should be drawn out daily, bathed frequently in cool or cold water, and the glyc. acid tannici, or a saturated solution of brandy and alum, should be applied two or three times daily. But even though this treatment be thoroughly carried out, we will have not a few cases of sore nipples. Without wasting time on what may in many cases be good, I will mention those remedies which have with me stood the more severe tests:

1st. For tenderness and excoriation of nipple.

The nipple, of course, should be carefully dried, then apply freely plain cosmoline, and cover with soft linen cloth. The next best application is, I think, tinct. benzoin comp., followed by two or three coats of collodion.

If the nipples still continue tender, though the excoriation has healed, use Man's nipple shield, being careful to secure one with a large sized base. For fissures, I always apply the "solid stick," viz: Argent nit. fusa. Sometimes the mother may be nervous, fearful of having the child touch the breast, the nipples are so tender; a painless and always to be had breast pump may be found in a good sized bottle, which may be heated by being filled with hot water, then emptied and placed over the nipple. In a few moments the milk will begin to flow, and thus the pain of nursing or pumping be avoided. This is also an excellent way of drawing out a retracted nipple preparatory to the child's nursing.

Only those who are in the habit of using the clinical thermo-

Digitized by Google

meter at each visit can testify to the great benefit often received. I said I should speak only of ordinary cases, and yet the use of this little instrument will often give the physician warning in time to use remedies that may so control and check symptoms which if left without this wise direction would, in a few hours, become serious and greatly complicate the case.

REPORT ON SURGERY.

BY MOSES GUNN, M. D., OF CHICAGO.

In the surgical field there are but few points identified with the literature of the past year to which your reporter is inclined to call attention.

Prof. Lister is, with unflagging zeal, still pursuing his favorite subject—antiseptic procedures in surgery. Starting out with the assumption, that, floating in the atmosphere and clinging to most objects in the material world, are germs of organisms which, when introduced into wounds, not only tend to interfere with repair by promoting suppuration, but, by exciting and carrying on putrefaction in the wound, develop, also, a septic principle, which by its poisonous influence in the wound and on the blood when absorbed into the circulation, retards healing in the one instance and destroys life in the other, his efforts are directed to the exclusion of such germs, both during the operation and the subsequent treatment.

It is not the intention of your reporter to discuss either this theory or the surgical procedures of Prof. Lister, which, together with the success of the latter in his hands, are well known to the members of this society; but he desires to call attention to some late investigations in putrefaction which the learned and zealous professor has been conducting.

In October last the *British Medical Journal* contained an account of his experiments in putrefactive fermentation, which your reporter will try to epitomize.

Alluding to the fact that zymotic diseases derive this quali-

Digitized by Google

fying name from the hypothesis that their essential nature is fermentative, and that in surgery "the most pernicious in its effects, both upon the wounded part and upon the constitution, is putrefactive fermentation," he asks: "What then do we mean by fermentation?" He answers by describing the vinous fermentation which he had recently witnessed in Italy, in which the grape sugar contained within the grape is acted upon, according to M. Pasteur, only after the rupture of the skin of the fruit, thus allowing a minute fungus upon the outside of the skin to come in contact with the sugar contained within. The growth and multiplication of this organism converts the sugar into alcohol and carbonic acid gas. He then asks: "Are all true fermentations caused by the development of organisms?"

Prof. Lister has been engaged in a series of investigations which he thinks constitute a step in the right direction tending to answer this question. Taking blood—which, as everybody knows, is "highly putrescible," rapidly changing from a "bland nutrient liquid" to a "foul, acid and poisonous" mixture—directly from the jugular of an ox, he received it in a flask which had been heated to 300° F., and cooled while air was admitted to it only by being so thoroughly filtered as to separate from it all organic germs. At the end of six weeks no putrefaction had taken place; coagulation, but no separation had occurred. During the earlier period of the observation, the blood had become brighter, showing the action upon it of the oxygen of the filtered atmosphere. At the end of six weeks some of this redness still remained, though a change to a darker color was going on. Prof. L. says: "Now, if I were to take a little morsel of already putrefied blood, say upon the end of a needle, and touch with it this clot of blood, putrefaction would, in the course of a very short time, spread throughout the mass; exactly as in the case of alcoholic fermentation under the influence of the yeast plant would the fermentation spread. Putrefaction, then, is a fermentation characterized by the power of self-propagation of the ferment."

Digitized by Google

Prof. L. does not say that he made this experiment, but it is fair to suppose that he did.

A microscopic examination of putrefying blood shows the presence of bacteria, which Prof. L. asserts develop "*pari passu* with the fermentation," and asks: "are these bacteria the cause of putrefactive fermentation?" This question he discusses at length and with great fairness. The closing paragraph of this part of the discussion is as follows:

I may say that as regards the putrefactive fermentation, we have already evidence in the flask and in the glass which I have shown you (the flask, also, has no putrefactive odor emanating from it,) that blood has in itself no inherent tendency to putrefy; it must receive something from without, and that something is not mere oxygen. Mere oxygen will not do; mere water will not do. Blood and wate· constitute a mixture highly putrescible, very much more liable to putrefaction than blood itself. But here we have had mixed with water the contents of a glass like this, only that the water had been previously boiled, so as to kill any organisms in it; boiled under the protection of a cotton cap, and then, the cotton cap being raised, careful provisions (into which I must not enter) against the entrance of dust being taken, the clot was spooned into the water, a fresh cotton cap, perfectly pure, was put on, and so we got, I belive for the first time, a permanent cold watery extract of blood, and here it retains the same brilliant clearness that it had in the first instance, more than a month ago.

Prof. L. has pursued this investigation still further and more critically in reference to lactic fermentatiou, and claims that the results show that this fermentation is caused by the propagation and growth of bacteria, and does not arise from the inherent chemical properties of the milk. His crucial test is as follows:

The second part of the investigation was to find absolute evidence, if possible, whether the bacterium lactis was or was not the cause of the lactic fermentation. It occurred to me that if we could estimate with some degree of accuracy the number of bacteria present in a given quantity of the liquid, and then if we were to dilute with a proportionate quanti y of boiled water, we might have the diluted milk so arranged that every drop with which we should inoculate boiled milk might certain, on the average, one bacterium; and if we should do so, as it would be practically certain that they would not be distributed with absolute uniformity, we should expect that we might have as the result of these various inoculations, some glasses with the lactic fermentation, some glasses with-

Digitized by Google

out it, some with the bacterium lactis, and some without it; and, if it should turn out that we should get those glasses with the bacterium lactis which underwent fermentation, and, on the other hand, those glasses which had no fermentation free from the bacterium lactis, that would prove the point, as I think you will agree with me it did, when we come to discuss the matter a little more at length after we have all the facts.

Omitting the detail of this experiment, which is necessarily minute in its description, we pass on to the culmination:

Now, having the bacterial ferment pure, we had the opportunity of performing other experiments; and the last experiment that I shall mention is this: These five specimens which you see before you were inoculated each with a drop calculated to contain two bacteria; these other five were inoculated each with a drop calculated to contain one bacterium; these five open glasses were also inoculated with drops each calculated to contain one bacterium; and one with a drop calculated to contain four bacteria. The result was that the specimen with the drop calculated to contain four bacteria curdled in a few days, and all these five calculated to have two bacteria to a drop curdled in a few days. The milk you see, is perfectly solid, and curdled and soured. You will observe, that no other change has taken place except the lactic fermentation, no oidium lactis, and no other alteration; it is as pure in whiteness as when it was first coagulated. I may here mention, that although all these coagulated, they did not all coagulate at the same time. There was a time in the twenty-four hours during which the coagulation went on, in which I hoped that some of them were going to be permanently fluid, implying, as you would expect, that the particles of the ferment were not uniformly distributed; some had more than others, though each happened to have one. But, of the five glasses calculated to have one bacterium to each inoculating drop, three have remained fluid, and two of these others; so that, of the ten, exactly five, it so happens, have remained fluid without any curdling."

Further on he thus formulates his creed:

I say that this fact demonstrates, as I believe, that the bacterium lactis is the cause of the lactic fermentation. I must add one point by way of fact. For the satisfaction of others rather than for my own, I went through the laborous process of investigating portions of all these vessels, and I found that in every one in which the lactic acid fermentation had taken place, where there were curdling and souring, the bacterium lactis was present; and no instance in which there was no lactic fermentation was any bacterium of any sort to be discovered. I believe that demonstrates that the bacterium lactis is the cause of this very special lactic fermentation.

Digitized by Google

In reference to purulent putrefaction, your reporter desires simply to raise one or two questions: If putrefaction be fermentation, and if fermentation be initiated only by the growth and propagation of organism, how are we to account for the positive putrefaction which pus sometimes undergoes in a perfectly closed abscess? How did the germ gain access to the perfectly enclosed pus? If by absorption into the circulation, and subsequent exudation upon the walls of the abscess, how does the blood escape the influence of the leaven? Is living blood proof against it?

But, while Lister is thus industriously working out his theory, and while many are enthusiastically following his practical teachings, a commission of the Surgical Society of Moscow, which was appointed in the Autumn of 1876, to investigate the results of certain surgical procedures prosecuted by the Society during the previous three years, has made a report advocating the treatment of wounds by æration, or constant exposure to the surrounding air. It is probably known to the members of this Society, that as early as 1859, Dr. Bürow, of Koenigsburg, advocated the treatment of stumps after amputation by the open method, without any dressings whatever, and justified his position by a list of sixty-two amputations thus treated, with only three fatal results; also, that from 1867 to 1871 this treatment was systematically adopted by the surgeons of the Hospital of Zurich, with a marked improvement in their records, the percentage of deaths being diminished and septicæmia occurring less frequently. The time required for healing, however, was increased, as healing by granulation only was attempted. But the Moscow surgeons use catgut ligatures and metallic sutures, and endeavor to achieve healing by first intention, the wound being constantly exposed to the ambient air. It is held that all dressings are injurious unless thoroughly disinfected and applied so as to hermetically seal the wound; but that the abolition of all dressing, and constant æration, is attended by at least as good results as by Lister's

Digitized by Google

method, while the perfect simplicity and inexpensiveness of the method give it great advantages.

If the ærative method is as successful as is claimed by the Moscow commission, it certainly disproves the baleful influence of Lister's organisms, and gives force to the aphorism of the late Prof. Freer, who said: "I am not afraid of *living* organisms in wounds."

Geo. W. Callender, of St. Bartholomew's Hospital, calls attention to the fact that injections of carbolized water into abscesses are often inefficient, because of the size and intricacy of the abscess, many abscesses being really multilocular. He therefore advises hyperdistention of the walls of such abscesses by throwing in an amount of carbolized water sufficient to accomplish this result. If on escaping the fluid is largely charged with pus, a repetition of the injection is made. A drainage tube, corresponding with the size of the abscess, is then laid in the wound or sinus. The distending injections should be repeated daily. This method, which recommends itself to the thoughtful surgeon, has been also satisfactorily used by Mr. Heath, in the Manchester Royal Infirmary.

David Newman, house surgeon of the Western Infirmary, Glasgow, recognizing the importance of saving all the blood possible in cases requiring amputation at the hip joint, and fully conscious of the uncertain operation of the aortic tourniquet, has invented a compound instrument, viz., a catlin and a flap tourniquet or compressor in one. It is composed of a catlin, the blade of which is twelve inches long and one-half inch wide, at the terminal three inches; from that point it is one inch wide to the handle, the narrowing being accomplished at the expense of the back of the instrument. Accurately fitted into this vacancy at the back are two straight pieces of steel, nine inches long, lying side by side, and filling out the correct contour of the blade. At the point extremity of each of these two pieces is an oblong hole with a small pin or bar across it. An elastic band with a hook at its free extremity is attached to the other or handle end of each piece, in such a manner as to admit of

Digitized by Google

being shortened or lengthened as occasion may require, and then fastened. When fitted together the whole makes a perfect long amputating knife, which is used in the following manner: Blood having been expelled from the limb by the firm application of a bandage, or, when this is inadvisable, the amount in the limb having been diminished as much as possible by elevating the member, the knife is made to transfix the limb, passing close to and behind the cervix femoris, the instrument being pushed so far as to bring the steel bars occupying the space in the back of the blade completely into the wound, and projecting at each end. The posterior bar is then detached from the instrument and left in the wound. The knife, with the front bar still attached, is then withdrawn so far as to enable the surgeon to pass it in front of the neck and out at the same opening of exit. The other bar is now detached and the elastic bands stretched, one behind the posterior and the other in front of the anterior tissues, and hooked so as to compress the vessels at the base of the flaps. The flaps are now completed, the joint disarticulated, and the vessel secured at leisure.

Wm. Knight Treves, of the National Hospital for Scrofula, at Margate, in speaking of the bad odor into which excision of the knee-joint has fallen, proposes more efficient means of securing immobility of the bones after the operation, greater care in the after treatment, and a new method of operation. The operation is made by two curved incisions, one upon each side of the limb, the middle of the incision corresponding with the middle of the curve, and falling so far back as to drain the wound effectually. The flaps are turned forward, the joint extremities of tibia and femur are isolated, and a section made through each by Butcher's saw. The splint consists of leather applied wet to thigh and leg, with the brackets spanning the joint. It is applied at the time of the operation with gum and chalk or silicate bandage, and is left on for three months, or until healing is complete.

In the opinion of your reporter, excision of the knee joint is

Digitized by Google

an unsatisfactory operation, not from any particular method of operation, dressing or after treatment, but from the fact that the section is made through cancellar bone tissue at that point of the head of the tibia and condyles of the femur where the bone is the largest, making a very extensive section through a bone tissue which, from anatomical peculiarities, disfavors rapid repair, and favors absorption of septic fluids which are liable to be generated in the prolonged suppuration. If the whole of the head of the tibia and the whole of the condyloid extremity of the femur be removed, there would be a more favorable condition for a rapid union, diminished and more healthy suppuration, and, consequently, diminished danger of septicæmia; but the great shortening of the limb, coupled with an absence of the knee joint, would make such a limb less useful than an artificial one attached to a long stump, and the operation being more dangerous than amputation through the lower third of the thigh, these two considerations make the latter operation preferable to an excision attended by the loss of so much bone. Thus the great danger of exhaustion and septicæmia in excision by a section through the centre of the tibral head and femoral condyles, and the imperfect limb in excision by sections more remote from the joint, conspire to render excision, made by either method, an operation to be dreaded by the careful surgeon.

At the last meeting of the American Medical Association, Dr. Henry A. Martin, of Massachusetts, made some remarks before the surgical section on the surgical uses of the elastic bandage other than hæmostatic. Dr. Martin has for twenty years been in the habit of using this bandage in the treatment of old and incorrigible ulcers of the leg. The bandage is made of pure rubber, cut of uniform width and of sufficient length to reach from the instep to the knee, lapping three-fourths of an inch. It is applied in the morning, while yet in bed, before the limb has been permitted to hang for even an instant. It should be applied with only moderate stretching, so as simply to cling to the limb without slipping. As the patient assumes the erect position, the filling of the vessels of the limb

Digitized by Google

incident to that position gives the bandage the requisite tightness, and it thus affords the desired support to vessels which would otherwise be over-distended, such over-distention preventing normal circulation and militating against the repair of the lesion. While thus giving support to the tissues, the bandage retains the moisture of the limb, and produces the effect of continued fomentation. Dr. Martin directs that the bandage should be removed at night, washed, and hung up to dry, and the ulcer be covered with some soft, simple dressing. In the morning the ulcer should be cleaned and the bandage re-applied. The patient continues his vocation.

Dr. Martin also recommends the bandage as a curative as well as palliative measure in varicose veins of the leg. He uses it also in injuries and inflammation of the knee and ankle joints. It is needless to remind medical men of the annoyance which old (and even recent) ulcers have caused them because of the indisposition, and even inability, of the patient to maintain the recumbent position during the healing process. Dr. Martin's method permits the patient to pursue his labors or his pleasures without in the least interfering with the work of repair. Your reporter has verified all that Dr. Martin claims for his bandage in old ulcers, and to a moderate extent in recent injuries, and he hesitates not to pronounce the method one of the most valuable contributions to surgery of modern times.

An interesting and exceedingly important investigation has recently been commenced by Dr. J. S. Wright, of Brooklyn, N. Y., relating to the comparative length of the inferior extremities in the same individual. His first published table comprised the measurements of sixty persons, of varied nationality, pursuits and age. In these sixty there were ten persons who presented a parity of length in the two legs, and fifty who showed a difference varying from one-fourth of an inch to one and three-eighths inches. The right leg was the longer in eighteen and the left in thirty-two instances. A second table, equally varied as to age, nationality and pursuits of the subjects of measurement, comprises forty-two measurements, and

Digitized by Google

shows a parity of length in thirteen and a difference in twenty-nine instances, the difference varying from one-fourth of an inch to one inch. In nine cases the right and in twenty the left limb was the longer. Prof. F. H. Hamilton has also made a few measurements, and found similar results. This general fact that the extremities vary in length in their normal condition is of the greatest importance in surgical jurisprudence, for it is highly probable that some of the cases without shortening, as estimated by comparison of the two limbs, may have been cases of actual shortening in which the shortening established an equality of length where there had been, before the fracture, a normal inequality, and also that in some cases of great shortening the real shortening resulting from the fracture may have been augmented by a normal difference in the length of the limbs.

Prof. Bigelow reports eight cases of lithotrity in support of a new departure, viz., in that he completes, or attempts to complete, the operation at one sitting, or rather lying, for he operates with the patient under the influence of ether, and prolongs the operation as long as may be desirable, in one instance the patient being anesthetized one hour and forty-five minutes. Although Prof. B. entitles his article "Lithotomy at one Sitting," the patient in the first, and also in the last of the cases reported, was obliged to "sit" three times. This is by no means strange, nor does it in any way detract from the merits of the operation, for it was an eminent success that the operation was completed in six out of eight cases at one sitting. The scope of novelty embraces simply and alone the fact that the urethra and bladder are more tolerant of prolonged operative procedures than has heretofore been supposed to be the fact by surgeons. The operator thus has the advantage gained by time and deliberation in his efforts to crush the stone and evacuate the debris. Your reporter sees no reason, however, for encouraging lithotrity in the male. An operation so eminently successful as lithotomy needs no supercedure, even in individual instances, for the *selected* cases in which lithotrity

Digitized by Google

is admissible are also cases in which lithotomy would be attended with an increased per centage of success.

In this connection, your reporter craves the indulgence of your Society while he gives the details of a case of a remarkably large prostatic calculus. On the 17th of May one year since, B. O. P. came into my hands from a neighboring State. Patient is of large frame, but much emaciated and very feeble from great and prolonged suffering. Five years previous to his coming into my hands he first noticed symptoms which gradually indicated the nature of his trouble. In July, 1876, nine months before his visit to me, a surgeon commenced a series of five attempts at lithotrity, at intervals of from two to five weeks. Small pieces of soft stone were obtained at each operation except the last, which occurred in December, 1876. Patient's health had been failing very rapidly of late, and he came to me in so enfeebled a condition as to render the result of any operation a matter of great doubt.

On examination with sound, the instrument struck a firmly fixed calculus before reaching the bladder, beyond which no warrantable effort was sufficient to effect a passage. On introducing my finger into the rectum, I found a large, hard tumor occupying the position of the prostate. This tumor evidently was formed by the calculus against which my sound had impinged, and which had been developed in the prostatic portion of the urethra, and over which the tissues of the urethra and rectum were stretched and attenuated so that only a very thin layer of animal tissue separated my finger from the calculus. Lithotomy was determined upon, for which due preparation of the patient was made, and two days later the operation was performed. Position of patient and disposition of assistants were as usual. The steps of the operation were necessarily modified. I cut down upon the staff by the usual incision for the lateral operation, which conducted me immediately to the anterior extremity of the calculus. The staff was then withdrawn, and with my finger in the wound as a guide, I extended the deep incision upon the extreme external side of the urethra, jeopardizing, undoubtedly, the safety of the internal pudic

Digitized by Google

artery, which, however, escaped all injury. With the scoop, I was now enabled to detach liberal fragments of a soft calculus, until I had removed all of the prostatic portion of the mass, which subsequent investigation proved to be about three-fourths of the whole stone, the reclaimed fragments of which weighed, when dried, a trifle over two ounces. As I scooped away the last fragments from the urethral sac, I was aware that a large fragment receded into the bladder. Introducing my left finger, I found a round ring-like opening into that organ, which readily admitted the finger, and which had evidently long embraced the isthmus of an hour-glass shaped calculus. Introducing the forceps upon my finger, I easily siezed the vesical portion or fragment of the stone and removed it. Having washed out the bladder, I introduced my finger into the rectum and demonstated its intact condition, though its anterior wall was extremely thin. The patient sustained the operation fairly. I kept his bowels quiet for ten days, fearing to subject the weakened rectum to the strain incident to defication. I then, by small and repeated doses of castor oil, distributed over forty-eight hours, succeeded in procuring a free and soft evacuation, which all came *per anum*, as did all of the rest of the stools till the end of the third week, when liquid portions of the stool began to appear through the wound. At the end of ten weeks, the perinæal wound being nearly healed and the patient's health sufficiently restored to endure the journey, he returned to his home in Wisconsin. On the 25th of last March his doctor writes me: "The opening made by cutting has not quite healed yet; the urine passes through at times. The opening into the rectum has not closed; during the night the urine passes into the bowel and remains until he goes to stool in the morning. His general health is fair, but he is not able to endure much fatigue."

Your reporter also desires to present another case, one of gun-shot wound of the head, in which the ball remains in the brain, or at least in the cranium, while the patient has fully recovered his health.

On the 25th of July, 1876, F. T., age 23, after having been

Digitized by Google

upon a spree for two or three days, was left asleep and very drunk on his bed. An hour later he was found lying on the bed in an unconscious state, covered with blood, and having a wound at the inner angle of the left eye, just below the eyebrow, through which blood and brain substance were slowly oozing. A revolver, ot which one chamber had been discharged, was found on the bed with him. I saw him an hour later. Blood and brain still oozed from the wound, while recognizable brain substance besmeared his face and clothing. The eyeball protruded, and the face and forehead were enormously swollen and discolored by ecchymosis. Patient was otherwise pale, surface cool, pulse difficultly discernible at the wrist.

A practitioner ot the *similia similibus* persuasion had already seen the patient, and had prognosticated death within a brief time, for he had probed the wound with his finger, which he said he carried through the orbital plate of the frontal bone and moved the end of it freely around within the cranium! I silently acquiesced in the prognosis, but for decency's sake washed the face, forehead and wound, laid a compress over the latter, and applied a roller.

I was quite astonished next morning to find that reaction had taken place. Pulse was 50, with some volume, but still feeble; skin warm, and consciousness so far restored as to enable the patient to reply intelligently to questions asked in an ordinary voice and manner. Cleansed the wound and applied a compress of lint soaked in a saturated solution of boracic acid, secured it with a roller, and directed the dressings to be kept constantly wet with the boracic acid solution. Ordered, also, beef extract every hour, and quinine in three grain doses three times daily. In the evening I renewed the dressings. This treatment was continued, with little variation save the addition of occasional aperients, until convalescence. In two days the parents of the patient arrived, and he recognized them, although a carelessness of manner was noteworthy. In three or four days he called for solid food, and his appetite became, within a week, voracious, and continued so until full recovery.

Digitized by Google

His digestion proving equal to the occasion, the restraint which at first was deemed necessary was gradually removed, and his voracity appeased. There was no pain, and no fever. Temperature was not taken. The pulse, per minute, did not rise to the normal standard until the end of a month. Intellection gradually became perfect, and though his disposition was irritable, he was usually courteous in his deportment. Suppuration in the wound was free, abundant and healthy. I occasionally probed the wound, in the orbit and just within the opening through the orbital plate of the frontal bone, with a Nelaton's probe. I found and removed a shaving of the ball, and several small pieces of bone, one the size of a finger-nail, which gave anatomical evidence of being a fragment of the orbital process of the frontal bone. The bullet was never found.

As the swelling of the face and forehead subsided a fissure, apparently two lines in width, was found in the frontal bone, extending from the border of the orbit at the seat of the wound, obliquely upwards and outwards as far as the coronal suture, and the portion of the bone external to the fissure was elevated perceptibly above the normal surface of the bone internal to the fissure. After the suppuration began to diminish and the work of repair began to become apparent, there was a vigorous disposition to develop a hernia cerebri, which was repressed only by an elastic bandage applied over a firm compress. This compress and elastic band were worn some time after the complete healing of the wound. I dismissed the patient to start upon his journey homeward on the 20th of September, fifty-nine days after the accident.

As to the way in which the wound was received, no light was ever developed. There was a complete blank in the patient's memory, from about the beginning of the spree which came to such an abrupt end to a date some days after the reception of the wound. Recent advices tell of the continued good health of the young man. The deformity of the head in consequence of the elevation of a portion of the frontal bone

Digitized by Google

continues, though diminished somewhat by the elastic bandage which was worn to repress the hernia cerebri.

The reading of the report being completed—

Dr. E. Andrews remarked that he had listened to the report with much interest, and fully coincided with the greater part of its conclusions. In addition to what had been said in the report concerning the septic influences of bacteria, he mentioned the singular conclusion of Vilrot, who claims that the bacteria are simply the sole carriers of the septic poison, while they are neither poison themselves nor producers of the poison. He thought it not possible to furnish adequate proof of such a view, and would prefer to consider the bacteria themselves as actively injurious. After briefly describing his mode of treating, antiseptically and otherwise, large and deep-seated abscesses, he spoke of the comparative safety and value of lithotomy and lithotrity for the removal of calculi from the bladder. A careful examination of the statistics show that lithotrity is seldom practiced on patients under the age of puberty, and hence the comparison between the two operations should be confined to adults. Another element which should be considered, is the fact that the practice of lithotrity has been confined mostly to small calculi. Making proper allowance for these circumstances, he thought if the last operation was performed on cases presenting large stones it would involve quite as much danger as that of lithotomy. The best practical rule, therefore, was for small calculi in the adult, lithotrity, and for others lithotomy.

Dr. D. Prince expressed his gratification in listening to the report, but would enter upon the discussion of such points only as were of interest to all members of the profession, whether surgeons or not. He proceeded as follows:

"The profession has been occupied with the question of disinfection as probably affording an increased success to the treatment of all open wounds, and perhaps an undue amount of attention has been paid to the question whether suppuration, or rather putrefaction, is dependent upon any living organism. Theory directs our efforts, but after all, our theories are tried by observation. Now, if there is something in the atmosphere which induces putrefaction in all corruptible material in a fluid state, it matters little whether it is organic or chemical. If by sifting the atmosphere we can keep out the cause of putrefaction, it matters little whether this cause is organic or merely a chemical substance acting in a chemical way. I think whatever criticism may be extended to Lister, and those associated with him in the investigation of the subject as to the presence of organic material as the cause of putrefaction, it is undeniable that the exclusion of the atmosphere, or whatever is the inducing cause in the atmosphere, is productive of full success in the treatment of wounds.

"The importance of the precautions implied in the word antiseptic treatment can hardly be over-estimated, and when it is said that the dry

Digitized by Google

atmosphere treatment or the dry ærated treatment is more successful than any antiseptic treatment, it is simply saying that permitting a scab to dry is better than to keep it moist, for it is obvious enough that if the scab is dry it is a less welcome house for these septic creatures to live in than if moist, where they could swim about and secure their food where they pleased. The seclusion of the atmosphere, or the seclusion of the evil-producing ingredients in the atmosphere, has been attempted in various ways. The entrance to the wound of the supposed injurious elements in the atmosphere has been attempted to be prevented by the Lister spray, as it is called (because Lister has the credit of introducing it), but I am very well assured there may be an error in the supposed safety of this agency. It appears from some experiments performed by Pasteur, that the egg or germ of the agency (chemical agency if you choose to call it that, and deny its organic nature) is capable of resisting chemically decomposing elements, such as carbolic acid to some extent, and salicylic acid, and also capable of resisting a considerably high temperature, above that of boiling, but by repeating the boiling process for a considerable number of times, the agency is finally destroyed so that the substance experimented upon does not ferment. Now take this hint, and is it possible that the germs of the ultimately developed organs may not pass through the very feeble antiseptic safeguard of the spray and become developed, and may not this account for cases where wounds that have been dressed under the antiseptic spray have subsequently been the seat of the bacterial product? These supposed germs are so small that they are not discoverable by the microscope. They are supposed to be so small in relation to the vibration of a ray of light that the microscope never reveals them, though they are capable of dispersing the light so that their location may be seen.

"It occurs that possibly a better method of suppressing the evil agency may be an immersion of the part, either during the operation or immediately and for a considerably time afterwards—immersion in water, not itself a substance opposed to the septic process. To explain, suppose that an amputation is to be performed. It will be inconvenient to do that under water, but it would be convenient to immerse the part directly afterwards in water, or if the wound received by accident or inflicted on purpose in surgical operation, is on a portion of the body that precludes the possibility of immersion, perpetual fomentation can be secured. And perhaps this explains why wet antiseptic dressing is ordinarily more secure than dry antiseptic dressing; in the dry one, in which the germs have been introduced previous to the dressing, they may go on till putrefaction; in the wet dressing, no matter how many germs are introduced in hatching, they are killed in the chick.

"The present contemplation of the subject leads to a question whether, in the opening of the peritonial cavity, so dangerous in consequence of the septic inflammation which arises there, this cannot to some extent be obviated by immersion at the time of the operation. Looking at the mat-

Digitized by Google

ter in this light, I have made but one observation in this direction to determine the safety of the process.

"In this proceeding, picture to yourself a patient stretched out in a bath. An opening into the abdomen is made under water. The water, which should have some salt in it so as to make it more nearly correspond with the body, on account of the osmic influence, should have some antiseptic mixed with it, suppose salicylic acid, and the temperature should be a little above that of the body, about 110°. If the blood is excessive, the hole can be made under water; if the blood render the water opaque, it is practicable to lift the body from the water, when a large sponge will immediately absorb it, and whatever requires speed can be done quickly, and the body allowed to drop quickly, and the abdomen become filled with water. In this way, if bacteria enter the abdominal cavity they are replaced by the water from the bath, and, whatever the theory may be with regard to the atmospheric ferment, the septic influence will be there for an exceedingly brief period, and probably be washed out by the water which enters the abdomen.

"One moment in regard to the immersion of wounds. I have recently carried through a complicated gun-shot wound in the fore-arm, by immersion for four months. The wound was excessive, and had such a large amount of injured muscular material that it was calculated to inspire some fear of the result. The arm was immersed in a bath of water—a bath made on purpose to receive the arm, with a small amount of carbolic acid and salicylic acid in the water, the water containing about one grain of carbolic acid to the ounce, the salicylic acid simply dropped upon the water and allowed to dissolve, as it might. Then the arm from three inches above the elbow to the wrist was kept immersed in the bath for between four and five months. There was no smell at any time; there was no decomposition at any time."

A voice :—"How often did you change the water?"

"Once a day, and kept it warm by a perpetual current over a lamp outside, two tubes connecting, one terminating higher than the other, so that there was a perpetual current of water into the can over the lamp, and a corresponding current out again; so there was no necessity of dipping in and out, but a perpetual supply of warm water replaced water that had been cooled. Portions of the muscles were pinched off occasionally and subjected to examination, and while free from odor, they were simply found full of crystals of salicylic acid. At the end of a few months a piece of bone was pulled off, and found entirely free from odor. You know bone becomes exceedingly offensive after being exposed to the atmosphere a few days. Here was bone exposed for three months, yet entirely free from any septic influence whatever."

"This observation leads us to suppose we need never sacrifice a limb on account of any fear of any septic influence; if there is circulation enough to prevent gangrene of the extermity from the want of a supply of nutritive material, we may undertake to save the limb."

Digitized by Google

Dr. Gill remarked that in the course of the reading of that report and the remarks made afterwards, especially upon the subject of antiseptic treatment of wounds, and open wounds particularly, there were two thoughts which presented themselves, namely, free and perfect drainage and dilution. "In dilution, it seems to me, is the principle of ventilation. When any poison is diluted to a very great extent the character of it we know to become changed, for though very active when concentrated, if diluted it will have no action at all, or so little as scarcely to be perceptible. The treatment of wounds by immersion accomplishes the object of dilution. Is that one and the same with disinfection? Is it the same that we have in ventilation? The treatment we want, in open wounds especially, is to have a free access and egress of the discharges and secretions as they are formed, so that no decomposing material may be left in contact with the healing or raw surface.

"In the latter part of the late war, army surgeons found that when they could have their patients placed so as to be surrounded by a pure atmosphere, and the secretions of the wounds kept free and not pent up in the wounds, but a free exit, the result was the patients nearly always recovered. It was for that reason, and not that the bacteria were carried away—not that the pus itself was poisonous; nobody supposed that; but if that pus should be allowed to remain in contact with an open wound, or pent up, then it would happen that the decompos tion or fermentation, whatever may be the cause and however brought about, would be absorbed—whether the poison were chemical, vegetable or animal. We must keep that idea constantly presented to our minds that there must be free egress of all discharges, so that they may not be in contact with the raw surfaces, and that is accomplished, of course, almost perfectly, by the immersion of wounds.

"That, it seems to me, is one of the recent advances; not new at all, but it accomplishes one of the great objects; and we cannot always apply the new methods of disinfection to wounds, and if we do, we are not at all certain they will prove effective in the perfect manner of carrying out the theory. This applies also to the washing out of an abscess; if it is at all thorough, the healing process will go on.

"I had a case of lumbar abscess a year ago. When I first saw it it was such as to indicate poison to the system from decomposing material. I at once commenced the washing away of the discharges as fast as they were formed, or as fast as I supposed they were formed, by introducing a catheter and washing out the abscess frequently with carbolized water, and then injecting carbolized oil. The result was that all offensive smell disappeared, and the patient got better. But the difficulty was in reaching the bottom and washing out the sore completely, thus carrying out the idea I have been proposing, the theory of the removal of the secretions, for after a time the abscess formed on the other side, thus showing that it was impossible to reach all round and remove all the secretions."

Dr. Ingalls said: "I won't make any remarks upon the report on

Digitized by Google

surgery, but there is a part of the paper read by Doctor Gunn which came almost outside of surgery—that which related to the bullet shot upon the head. The conclusion that the bullet is in that man's brain still, and he going about in a good state of health, passes my credulity. I don't know what the explanation should be, but if Dr. Gunn himself believes that the bullet is still in the man's cranium, he ought to see to it that a special surveillance is kept over him, as was done in the celebrated crowbar case. The man ought to be kept under surveillance, and a careful post mortem examination made after he is dead; that is, if the Doctor thinks the bullet is still there; I don't believe it."

Dr. Gunn: "The best proof that it wasn't taken out is that my little pill friend didn't claim to have taken it out, as he probably would have done if he had taken it out. The young man belonged to a very influential family, who were very anxious about him, and consequently the question of a possible recovery was very freely discussed, and of course the presence of that bullet had considerable bearing upon the point; so that the clothing upon the man, and the bed clothing, and the room were all thoroughly searched, and that scrutiny was kept up for two or three weeks continuously, lest possibly the bullet might have rebounded in some way and might have escaped. As I told you, the shaving of the bullet I found within the orbit, just below the fracture of the orbital process, and I removed two or three pieces of the orbital process, but the bullet was never found."

Prof. Andrews: "Was there any effect on the sight of the eye?"

Dr. Gunn: "The eye escaped entirely; vision perfect, intellection perfect. Where the bullet is, I don't know. I am very certain the brain was severely wounded. The amount of brain escaping I estimated to be at least an ounce; I think perhaps an ounce at the time and a few days subsequent. A swelling took place, and there was a constant issuing of brain substance, showing that the brain was injured by the missile, and the missile was never found except the very small fragment which I have mentioned. I cannot escape the conviction that the ball, with the exception of that shaving, is inside of the man's cranium. Undoubtedly, if it is there it is enclosed by substance thrown out around it, which has become organized. The patient, when I first saw him, was almost moribund. The pulse was indistinguishable at the wrist, and he was collapsed. In fact, when I was looking at him I thought at one time he really was dead, and I felt that perhaps he was just drawing his last breath. The reaction took place during the night. He did not escape the shock and the collapse, but the reaction was wonderful, and the recovery equally so."

Dr. Davis said the question arose whether that wound was not inflicted pretty directly upwards and outwards, in such a way that the ball, while shattering a portion of the orbital plate and the inner portion of the

Digitized by Google

skull, that is, the inner portion of the boundaries of the frontal sinus, sufficient to open into the brain and let a part of the brain escape, yet the tendency of the ball being upward rather in the direction of the skull, injuring only one lobe of the brain and leaving the other uninjured, with an opening such that all discharges came forth freely, the recovery would be explained and leave that ball still lying, not imbedded in the brain, but between the brain and the frontal bone. It has occurred to me that it might be explained in that way, and account for his little suffering in the end.

Dr. Gunn: "It is quite possible, and you remember I reported 'within the cranium.' That it is imbedded in the substance of the brain seems to me as inexplicable as to any one else, but that it went into the cavity of the cranium, and that the brain was wounded, excessively so, and that we never found the ball, are simply matters of record."

REPORT ON DISEASES OF CHILDREN.

BY C. C. HUNT, M. D., OF DIXON, ILL., CHAIRMAN.

FIFTY-ONE CASES OF WHOOPING-COUGH TREATED BY BELLADONNA, AFTER THE MANNER OF TROUSSEAU.

So meagre and unsatisfactory has been the success usually attending the treatment of whooping-cough, that it has become a popular belief that this disease will "run its course," in spite of the doctor's efforts, and his services are seldom required, except in cases of unusual severity, or when some complication arises which excites alarm in the minds of parents or friends. The physician himself is apt to regard the management of a case of this disease as one of the opprobria in the practice of his profession, and he expects but little or nothing from medication except in so far as it may prove palliative. Yet there is no disease in the whole catalogue of disorders to which children are subject that has had such an array of agents addressed to its cure. Countless are the remedies that have been lauded as specifics in the treatment of this affection, only to be cast aside in their turn as utterly worthless, or worse than worthless. Foremost among these so-called specifics, belladonna has found the strongest advocates and the

Digitized by Google

most uncompromising unbelievers. But the same may be said of bark in the treatment of an intermittent, or spurred rye in post partum hemorrhage, and of iodide of potassium and mercury in tertiary syphilis. Yet who to-day doubts the power of quinine as an anti-periodic, of ergot as an hemostatic, or of potassic iodide and mercurial bichloride as anti-syphilitics? Each of these potent agencies has passed the ordeal of impartial clinical test, and so far as their influence over certain diseased conditions is concerned, their status is pretty well known, and, I believe, generally acknowledged by the great mass of regular practitioners in all countries. Belladonna, however, has not yet found its true level; neither is it my purpose nor within my province to attempt to reconcile the many and conflicting views held by divers of our most worthy clinical observers of to-day concerning the value of this agent in the treatment of whooping-cough; but so long as there is any question as to the true status of any therapeutic agent, we may with propriety, I trust, "offer our testimony" to that of others either for or against that agent.

Trousseau, of Paris, in his admirable work on Clinical Medicine, ascribes to belladonna pre-eminence over all other agents in the treatment of pertussis. But he urges it as a capital point that in order to produce its full therapeutic effect it must be given in doses sufficiently large to make a decided impression on the nervous system. He insists, also, that whatever quantity be given in twenty-four hours should be given in one dose. Moreover, he enjoins us to administer it "according to a particular method," which he regards as being of as much importance in the management of whooping-cough as is the necessity of following certain rules in the administration of bark for the cure of an ague. For comprehensive detail in regard to his particular method, reference may be had to the work referred to. It will suffice here to state that for children under four years, he begins with pills composed of equal parts (1-10 grain) of the extract of belladonna and pulverized belladonna leaves, gives one pill in the morning, fasting, requires an accurate account to be kept of the number of paroxysms

Digitized by Google

during the twenty-four hours following, and if the number be perceptibly lessened in any twenty-four hours compared with preceding days, the same dose is continued at the same hour every morning. If no decrease in the number or intensity of the paroxysms occurs, then he adds one pill on the next morning, and so on until there is a decided modification of the symptoms. As the intensity and frequency of the paroxysms gradually yield the dose is proportionately diminished, and if from any cause they are increased, the dose is increased accordingly. For children four years old and over, and for adults, he directs the pills to contain one-fifth grain each of the extract and the leaf, and gives one pill to the child, gradually increasing the number in proportion to age or the effect produced. I have found it more convenient, however, to have pills made containing one grain of the extract alone, and for very young children, dissolve one pill in ten teaspoonfuls of aqua pura (it requires but a few moments to effect perfect solution), and give one teaspoonful at a dose. For older children, dissolve one pill in a less number of teaspoonfuls of water, according to age, and give one teaspoonful as before, as recommended by J. Lewis Smith.

This method insures uniformity of dose, and we get rid of the pulverized leaves, which are practically inert; besides, children of any age will take a solution (especially if a little syrup be added) better than a pill.

I will not try your patience with dry detail in the recitation of the records of cases, but will, in as few words as possible consistent with clearness, report the principal points in the history of a few typical cases, selected from fifty-one in all, in which I had the opportunity of observing during the last year and a half.

Early in December, 1876, my two little daughters, aged respectively seventeen months and two months, were taken with whooping-cough of more than ordinary severity. The disease had reached the second or convulsive stage in the case of the elder before I could fully make up my mind to try the effects of belladonna, so highly recommended by Trousseau. The

Digitized by Google

paroxysms numbered, as nearly as I could ascertain, about thirty in the twenty-four hours preceding the beginning of treatment, being much increased in frequency and violence during the night. I gave one teaspoonful of a solution of belladonna containing one grain in ten, in the morning, fasting. In course of an hour I observed the peculiar effects of the drug on the pupils. No unpleasant symptoms were manifest during the day, but she was languid and desired to be held. During the next twenty-four hours following, and especially at night, the paroxysms of coughing were very appreciably modified, both as regards frequency and intensity. The same dose was repeated at the same hour for three mornings following, when, the cough having almost entirely lost its neuropathic element, the medicine was reduced to one-half the dose. At the end of about ten days the whoop had entirely disappeared, only a slight bronchial catarrh remained, the medicine was discontinued, and no relapse occurred. The two months babe was taken with convulsions early in the second stage of the attack, owing to the violence of the coughing spells. This was in the afternoon; I gave at once one teaspoonful of the solution before prepared. The convulsions did not reappear, but I was considerably alarmed at what appeared to be the toxic effect of the drug. It laid stupid on its mother's lap, pupils largely dilated, nursed none during the balance of the day; pulse rapid, but strong and regular. It gradually came out of this state, however, without any treatment except gently sponging the head with cool water occasionally, nursed during the night, and awoke next morning as bright as could be desired. The medicine was given in greatly reduced doses on the two mornings next following, but after the first dose the spasmodic element in the cough entirely disappeared; convalescence was rapid without any further treatment. I report these two cases from memory, but the impression made on my mind at the time by what seemed to me extraordinary results, was so powerful, that I am quite sure this hasty and rather loose description is essentially correct. So rapid, indeed, was the cure that I seriously questioned my diagnosis; but both

Digitized by Google

were subsequently exposed to the contagion without experiencing any manifestations of the disease. This circumstance, taken in connection with the fact that whooping cough had, for some time previous to the attack, been prevailing in the immediate neighborhood, besides the peculiar character of the cough, convinces me beyond a doubt of the correctness of my diagnosis. Although I prescribed the remedy in several cases about this time, I had no opportunity of watching them with sufficient care to justify any record of them. But since November, 1877, Dixon has been the center of an epidemic of whooping-cough of about the ordinary severity. I have during this time had ample opportunity to observe the effects of belladonna prescribed in the manner before stated, and I have made a pretty careful record of forty-nine additional cases. In forty-two, the maximum duration of the convulsive stage was fourteen days, the minimum five days. No complications arose, nor did any relapse occur in any of these forty-two cases. Of the remaining seven, one died at the very onset of the second stage, of what seemed to be active congestion of the brain. The patient, an active boy of four years, had taken one-tenth grain of the extract on each of the two mornings preceding, which his mother informed me produced no effect upon the pupils; retired in the evening in usual glee, after eating a hearty supper; called for a drink of water next morning at five; at seven was attacked with vomiting and fell into a profound coma immediately afterwards. I saw him at nine A. M. Pupils contracted, and death evidently near at hand. He died at 11:30 or four hours and a half after the attack of vomiting. Two of the seven were complicated with capillary bronchitis, occurring during the second week of the second stage, and made a slow recovery, and one was complicated with pneumonitis, more or less capillary bronchitis, and pulmonary emphysema, and at this writing, the second stage having lasted about two months, is making a slow recovery. The remaining three were apparently but little benefitted, the cough run its ordinary course without any complications, the convulsive stage lasting over two months. Recovery was complete.

Digitized by Google

This, it must be admitted, is a pretty good showing, complications arising in only four cases in a total of 51, the second stage reduced to a maximum of fourteen days in 44 cases, and a minimum of less than three days. Average duration in forty-four out of 51 cases, a little less than nine days (I mean the convulsive stage), and this during an open, changeable winter and spring, in a class of patients mostly under eight years of age, when the system is most susceptible to those changes in the atmosphere and temperature most productive of acute pulmonary diseases.

Brown-Sequard, some twelve years ago, gave it as his opinion that "so far as the neuropathic element is concerned, the duration of pertussis might be abridged to a few days by doses of atropia sufficiently large to produce toxic effects." He aimed to maintain delirium for three days, "after which," he claimed, "the cough is no longer spasmodic." He did not seem to fear toxic results, such as our text-books, as a rule, warn us against producing.

J. Lewis Smith, of New York, in his excellent work on Diseases of Children, says: "It is now considered a safe as well as efficient remedy," and offers it as his judgement, based upon extensive trial, that, compared with other methods, "the treatment by belladonna is usually most successful."

In view of all this evidence, I am persuaded that we may rationally prescribe for pertussis convulsive (following the method which I have mentioned) with as much confidence as we would treat an intermittent; that belladonna is justly entitled to first rank among the agents usually employed in its treatment, providing, however, the quality of the drug is reliable and it is properly administered; that if prescribed in doses sufficiently large to produce marked constitutional effects the second stage of the disease may be shortened to a few days; that it thus prevents complications in the great majority of cases if prescribed early in the second stage; and finally, that the danger attending its administration, even when pushed to the point of marked delirium, has been greatly over estimated.

In connclusion I will only add that I have had no opportu-

Digitized by Google

nity to study the effect of belladonna as a prophylactic. I prescribed the solid extract in all my cases. As much that is usually found in the shops is of inferior quality, I would urge those who prescribe it to test every sample before administering it. Select an article that you know is reliable, dispense it yourself, and closely observe its results for two or three mornings at least, after which you may rely on the reports of an intelligent nurse. All of which is respectfully submitted.

CHOLERA-INFANTUM CLASSED WITH THE NEUROSES.

BY DR. LUCINDA H. CORB, CARLINVILLE, ILL.

When it is known that nearly half the children born die before the age of five years, and nearly half of this mortality is from bowel affections, commonly called cholera-infantum and summer complaint; and when I state there is no uniformity of opinion in the profession in regard to the pathology of this disease, and much less uniformity in the treatment of it; but that every one regards it in some vague manner as essentially an inflammation, or as etiologically arising from "bacteria or blood ferment," and treat it with so called anti-phlogistics, all the way from calomel to gum-water; and when I state that the season of the year is rapidly approaching when we will be called to treat this disease, and become in a manner responsible for its ravages, I have made sufficient apology for bringing this subject before you.

In the light of the recent advancement in neurological science, I have been impelled to adopt a pathology for cholera-infantum different from any I find expressed in the medical literature within my reach. Heat, moisture, electric, ozonic, meteoric and etiological conditions affect the system in such a manner as to diminish the tonicity of all the tissues, but especially the nervous apparatus which controls the circulation of the blood in the capillaries. The blood current is more or less retarded in the capillaries. But *paralysis* of vascular tonus occurs only

Digitized by Google

in the circulation of the intestinal canal. Why should the derangement of the circulation show its effects in the intestinal canal instead of elsewhere? Because the returning circulation from this large absorbing surface must pass through two sets of capillaries, those in the mucous membrane of the intestines and those in the liver, before reaching the general circulation; hence any cause having an effect on the general circulation to retard it, would have a double effect here. Its effects would be more manifest in the circulation in the liver—a segment of the circulation most remote from the impulse of the heart, and without the contractility of the arterial coat. The portal circulation is thus obstructed, resulting in passive congestion. Now, with these conditions we get diminished or abolished absorbing and digestive power, increased secretion and exudation of serum into the intestinal tube, followed by the more or less rapid discharge of the ordinary contents of the stomach and bowels and characteristic gray fluid. The essential condition thus far is not an inflammation. The patient is cool, relaxed and depressed when without complication. This increased activity of the follicular apparatus, in the way of increased secretion and exudation, leads in due time to that kind of irritation which results in active idiopathic congestion, which in turn results in trophic changes in the mucous membrane of the intestinal tract, and *then* we have an inflammation proper to treat as a secondary result; and it may vary in degree, but is usually chronic. As one of the objects of this report is that it shall be short, I will not attempt to go through a detailed description of each step of impression by morbific agents, which are slight general relaxation, *general* vaso-motor disturbances, *special* vaso-motor paralysis, deranged or perverted peristaltic action of the capillaries in the intestinal mucous membrane and liver, exudation, emesis and diarrhœa, exhaustion, and finally an inflammation as a secondary result. A clear understanding of all these changes can only be obtained by a careful study of the nervous system as a whole, and the sympathetic system specially, and a review of that kind would be out of place here, except for special teaching. The post-

Digitized by Google

mortem examinations which have been made in the study of the disease do not disprove my position that it is originally a neurosis. The appearance of the mucous membrane is merely pale, or shows *no* change to have occurred when death has taken place in the first, and even during what has been called the second stage of the disease. In some cases where death has occurred in what has been called the second stage, the mucous follicles showed increased development, and occasionally softening. This theory, then, is at least as tenable as "one which a post-mortem examination does not prove." The true nature of the disease is only revealed in the post-mortem appearances of the *first* stage, where no tissue changes have taken place, it being a *suspended function;* and the appearances in the second stage are but the effect of enforced deranged follicular action. It is the essential pathology of a disease which suggests remedies which have not been stumbled upon by empyricism. More benefit is to be derived from the judicious use of prophylactic hygenic regulations than from curative measures after the attack. The pathology hinted at here points to the use of those remedies which act as a tonic and stimulant to the vaso-motor nervous system rather than to anti-phlogistics and sedatives. I should expect great benefit from the use of the galvanic current in the incipiency of the disease, and from caffein, ergot, strychnia, opium, and dry warmth. The food should be simple, easily digested, and its digestion assisted by some preparation of pepsin.

ABSTRACT OF THE REPORT OF THE SPECIAL COMMITTEE ON CROUP.

WITH A LIST OF EIGHTY-THREE CASES OF TRACHEOTOMY FOR CROUP AND DIPHTHERIA PERFORMED IN THE STATE OF ILLINOIS.

BY H. Z. GILL, A. M., M. D., JERSEYVILLE, ILL., LATE BREV'T LT. COL., SURGEON U. S. VOLS.

The abstract was made at the request of the State Society, and by vote of the Society the author was allowed to publish the full report himself, it being too lengthy for publication in the Transactions, the Society, by its By-Laws, otherwise claiming full

Digitized by Google

possession of all papers presented to it. The full report, containing an extensive bibliography, statistics both home and foreign, and a discussion of the subject of unity or duality of croup and diphtheria, will be published soon, at the earnest request of many of the members of the Illinois State Medical Society. The correspondence with members of the profession within the State has been extensive, as well as with many outside, frequently amounting to several letters to the same individual, and the answers have been generally of the most cordial and interesting character, showing most clearly the importance of the subject.

CROUP.—Latin eq., *angina trachealis;* French eq., *croup;* German eq., *der croup.*

SYNONYMS.—Angina canina, angina cruposa, angina exudatoria, angina inflammatoria, angina laryngea exudatoria, angina membranacea, angina membranacea trachealis, angina perniciosa, angina polyposa, angina polyposa sue membranacea, angina pulposa, angina strangulatoria, angina strepitosa, angina suffocans, angina suffocatoria, asthma infantum, catarrhus trachealis, catarrhus suffocativus barbadensis, cauma bronchitis, cynanche laryngealis, cynanche trachealis, cynanche tracheo-laryngealis, cynanchorthopnœa, diphtheria (Bristow), diphtheritis trachealis, empresma bronchitis, empresma bronchlemmitis, expectoratio solida, laryngitis crouposa, laryngitis crouposa et diphtheritica, larygitis catarrhosa, laryngitis et tracheitis infantilis, laryngitis dephtheritica, laryngo-tracheitis, laryngo-tracheitis cruposa, laryngo-stasis, laryngocace, morbus strangulatorius, morbus suffocantus, morbus truculentus infantum, suffocatio stridula, trachitis, tracheitis membranosa, tracheitide infantum.

FRENCH.—Le croup; angine counneuse; angine laryngee et tracheale; angine tracheale diphtheritique; diphtherie tracheale; laryngite membraneuse, polypeuse; laryngite pseudo-membraneuse; laryngo-tracheite.

GERMAN.—Der croup; die Häutige Bräune; der Kehlkopfs-croup.

VULGAR.—Croup; membranous croup, catarrhal croup, diphtheritic croup, pseudo-membranous croup, pseudo-membranous laryngitis, exudative laryngitis, inflammatory croup, true croup, malignant croup, roup, hives, choak, stuffing, rising of the lights.

Digitized by Google

DEFINITION.—By the term *croup*, I mean an acute, idiopathic, pseudo-membranous, inflammatory affection of the larynx or trachea; accompanied with difficult or obstructed respiration, generally audible, especially during inspiration; hoarseness, partial or entire loss of voice; frequent, dry, ringing cough in the early stages; more or less of spasm of the internal laryngeal muscles, producing paroxysms of aggravation of all the respiratory and vocal symptoms, often to apparent suffocation; and frequently with expectoration of concretions of plastic or pseudo-membranous material in the advanced stages of the disease.

The word croup is probably of Scotch origin, (*croup*, *crupe*, *crowp*, to cry or speak with a hoarse voice). It was first used by Dr. Vatrick Blair, of Cupar Angus, in 1713, and originally meant strangulation; but it was established in medical nomenclature by Dr. Francis Home, in 1765. Cook derives the name croup from the membrane which occurs on the tongue of young fowls, and which we call the pip.

Croup, then, in the present accepted sense, is an acute disease, generally sudden in its attack, rapid in its course, and of high mortality.

THE HISTORY OF CROUP

May be very conveniently devided into four epochs, or periods:

The first period embraces the time from the earliest medical records of disease to the date when Baillou found the cause of the attacks of suffocation, discovering the false membrane in the larynx and trachea, viz. in 1576.

The second period begins with Baillou's discovery, and ends with 1765, the time of the publication of Dr. Francis Home's work, by which the disease became generally known by its present title, croup.

The third period extends from 1765 to the Napoleonic prize in 1808.

The fourth and last period comprises the time from 1808 to the present day.

Digitized by Google

That the disease which we call croup existed at a remote period, and was described by Hippocrates, scarcely admits of a doubt. Littrè, in discussing the subject before the Academy of Medicine, at Paris, in 1861, gives an account of a disease which he says occurred in a village (Perinth), in the north of Greece, and which he calls the epidemic of Perinth. We give here the original description:

> Fifteen or twenty days after the winter solstice, there occurred a form of cough which at first presented nothing peculiar; but before the equinox which followed, the larger part of the patients had a relapse, which came on ordinarily about the fortieth day, counting from the beginning, and it was then that the disease assumed an unexpected character. Three orders of phenomena made their appearance—nyctalopia, angina, and paralysis. The paralysis was peculiar in having no accompanying cerebral symptoms. The patients died early, without obtaining any benefit from purging or bleeding.—*Hippoc.* I., vi. *Epid. transl. of Littrè.*

Aretæus also described a disease which could scarcely be other than croup. Galen also "saw a patient expel a thick viscid membrane which he took for the epiglottis. The child recovered."—*Simon.*

The knowledge of the pathological anatomy of croup seems to have been obscure until 1576, when Baillou, of Paris, described the symptoms and anatomical characters. As in many other cases in medical science in early, as well, indeed, as in later times, the observation attracted little attention. In the years 1583, 1587, 1591, 1596, and from 1600 to 1605 croup prevailed in epidemic form in Spain, and then extended to Naples and Sicily, and in 1613 it returned to Spain with such increased malignancy that the year was called *ano del garotillo*, the year of strangulation. From this date we find Francesco Perez Cascalez noting the existence of the false membranes. Cristobal Perez Herrera also saw the false membranes upon the skin, and upon wounds, and found them in the throat, larynx, and trachea; and this feature he regarded as characteristic of the disease, which he looked upon as malignant, pestilential and contagious. In 1665 Miguel Heredia distinguished two forms of the disease, one inflammatory and suffocating, the other asthenic, malig-

Digitized by Google

nant, without asphyxia, destroying the patient by prostration. The paralysis of the soft palate, the pharynx and the extremities did not escape him, and he believed in the general poisoning of the system by absorption of the morbid products.

About the same time are to be found the detailed accounts of various epidemics, by Jean de Villareal, Alonzo Nunez de Pereira, Ildefonso Menezez, Jean de Soto, Francisco de Figueiroa, Lorenzo de San Milan, and Luiz Mercado. The last named reported a case in which the disease was communicated from a child who had died, to the father, when the latter was removing the false membrane from the fauces. In 1626 there was an epidemic in Portugal characterized by an inflammation of the throat, accompanied with malignant and corroding sores. Children were attacked and died in large numbers, while but few adults were attacked, and they generally recovered. In 1668, Thomaz Rodriguez de Veiga, a Portuguese professor at Coimbre, spoke of angina laryngea, and he advised tracheotomy in desperate cases. Still another epidemic occurred in Portugal, mainly among the children, accompanied with a scarlatinous eruption and membranous patches, which he regarded as contagious. Soares Barbosa was himself attacked, and after trying ineffectually blood-letting, resorted to ipecac and tartar emetic exclusively.

Epidemics of croup and diphtheria prevailed about the same time in Italy, and Marc-Aurele Severin witnessed the presence of false membranes in the larynx. Entmuller, Molloi, and Mallouine wrote on the disease, and after them Martin Ghisi (1747) described the disease as it occurred in epidemic form in children, and in some cases of which casts of the air passages were thrown off, and many died from the second to the fifth day. In the *post-mortem* of a son of the pharmacist Scotte, false membranes were found in the larynx by which a complete distinction could be made between angina laryngea and angina tonsillaris.—*Simon.*

One year later (Simon, or in 1749 Churchill) Star saw, during an epidemic, in the throats of several patients, false membranes which extended into the larynx, and were expectorated

Digitized by Google

in long membranous tubes. He gave an illustration of one of these, showing the exact form of the larynx, trachea and primary divisions of the bronchial tubes. About the same period (1747) Arnault and Marteau (1768) observed the same facts. The malignant cases, when the disease reached the air-passages, produced a harsh cough, aphonia and false membranes which observers took for eschars. Thus Middleton, 1752, Bergius and Rudberg, 1755, Breghen, 1759, Wahlborn, 1761, Wilcke, 1764, wrote on the subject; and in Spain and Portugal there were numerous and important documents in which were described all the principal anatomical characteristics, as also the paralysis, scarlatinoid eruption, and the rational treatment—*tracheotomy*—was also pointed out.

The distinction between *true* and *false* croup was yet to be settled; and also the different characteristics of angina and their correspondence with diphtheria. Thus stood the case, and so ended the second period with 1764.

The third period commenced with the remarkable monograph—"An Inquiry into the Nature, Cause, and Treatment of the Croup," by Dr. Francis Home: Edinb. 1765. The writings previously had been rather fragmentary, of detailed character, but not systematic works. He established, as heretofore mentioned, the term "croup" in medical science, the name by which it is now generally known, both in and out of the profession. From this date writings multiplied. Diagnosis, especially the differential, became more accurate. Croup was no longer united with laryngeal asthma, Millar establishing the distinction; the latter disease not having plastic accretions, nor swelling of the neck, nor fever.

In 1766 Eller, in 1767 Engstrom, Rush and Millar in 1769, Crawford, Rosen and Samuel Bard in 1771, Callisen, Buchan, and Trumbull in 1776, Mahon in 1777, and Middleton in 1780, wrote on the subject, and in 1783 Vieusseux, of Geneva, made three divisions, viz., the nervous, the inflammatory, and the chronic.

But Samuel Bard attempted to demonstrate that angina gangrenosa, angina membranosa with croup, and croup *ab*

Digitized by Google

initeo (d'emblée) were not three separate diseases, but one and the same entity, manifesting itself in three different forms. In him we have thus early an American unitist. Schwilgue, of France, in 1801 made an analysis of the false membrane, and in 1808 he made a vast collection of material, some of which has been used in many later works.

In retrospecting these many facts, is it not surprising that the question of unity had not earlier attracted the attention of scientific minds, and become as largely accepted as it is now? Nothing scarcely seemed to be omitted in the study of the disease; it was known from the earliest history of medicine; the destructive epidemics of France, Spain, Portugal, Italy, Scotland, England, Sweden, and other Northern countries gave the saddest evidence of its existence; observation led to the separation of the pharyngeal and laryngeal forms. Home described the pseudo-membranous affections of the trachea and and of the larynx—croup distinct and separate; Millar, Fleisch, Henke, Wendt and others, pushing their observations still farther, described distinctly the laryngeal spasm, our false croup; finally, Bard included under the same title the various diphtheritic manifestations produced upon the pharynx, the larynx, or the two simultaneously. But to sum up, croup, laryngitis stridulosa, and diphtheria were known; the truth, however, was not popularized at the close of this third period, 1807.

The fourth period commences with the prize of Napoleon, in 1808, and extends to the present day. This prize was occasioned by death, from croup, of the eldest son of Louis Bonaparte, in 1806. The news of this sad event being brought to Napoleon, he instituted at once the commission for the competition, to which he invited physicians of all countries, in order to obtain a complete knowledge of the subject; and for the best memoir on the nature and treatment of croup, he offered a prize of twelve thousand francs.

The united intellects and labors of two foreigners, Jurine and Albers, of Bremen, bore away and divided the prize. About this time, or up to 1812, several important works appeared, among which may be mentioned that by Royer-Collard, Sec-

Digitized by Google

retary of the Prize Commission, and author of the article "Croup," in *Dictionnaire des Sciences Medicales*; and that by Caron (1808), who vehemenently advocated tracheotomy; and the one by Valentine (1812), who collected all the facts, historical and practical, within his reach. The nature of the disease, as to its unity or complexity, came again to the surface. One held that each was *a single inflammation* of exaggerated degree. Another, while taking full account of the inflammatory factor, recalled also the powerful additional nervous element; and a third held to the physiological doctrine for an explanation.

Bland concluded, from a great array of facts, that croup was at one time a catarrhal, at another a purulent, and again a pseudo-membranous inflammation. Jurine, one of the successful competitors for the Napoleonic prize, expressed some doubt about the gangrenous nature of the false membrane, the same as Bard had done, and admitted that angina might exist, either alone or with the croup, and that the false membrane might extend into the trachea, but also recognized the bond that united these various affections. For him the seat alone established the difference of manifestation of one and the same malady.

These views did not yet gain ready acceptance, but the later observations of Bretonneau (1818), in an epidemic of malignant angina at Vendee, showed that this latter disease should not be so designated, since the false membrane alone constituted its characteristic, and that croup was equally a pseudo-membranous affection with the angina membranosa, and dependant upon the same cause. This distinguished observer studied the disease in all its manifestations and phases, pathological and chemical, following it by dissection from the nasal fossæ to the lungs; and, concluding there was a unity as to cause with a general manifestation, he called it diphtheria; but the Germans, at least many of them, have diverted this term from its original sense, as definitely set forth by the author. He believed he had made a real discovery, and, as a consequence, the treatment was di-

Digitized by Google

rected largely against the local manifestation with the greatest hopes; and in the same line of reasoning he was led to practice *tracheotomy*, of which Caron had previously been such an ardent advocate.

Bretonneau, so firm in the correctness of his conclusions, drawn from such an extensive experience, proceeded to put into practice his theory, and performed tracheotomy five times, "with but sad partial success." Finally, in the case of the daughter of a friend (the child, Elizabeth de Puysegur), recognizing *the commencement of asphyxia* by the signs given by Aretæus more than seventeen centuries before, he operated and saved the child "from certain death." To this great man, it seems to me, must be accorded the distinguished honor of having established tracheotomy in the treatment of croup, popularizing it, and creating the fire at which his followers, such as Trousseau and others, have lighted their torches.

The views of Millar and Weichman were again brought forward, Bretonneau calling all the cases of laryngitis suffocantis, of either inflammatory or nervous character, *laryngitis stridulosa*, in which was found no trace of false membrane; and Guersant gave the name of pseudo-croup, or false croup, to the same affection, which he was careful to separate from true croup in the article on this subject in the *Dictionnaire de Medicine* (1835). From this time on, the details of the disease, and the treatment, received special attention from men of the highest standing in the profession. Many new points were brought up, and diphtheria being generally recognized and admitted, the distinction between croup and false croup, the simple, primitive, and secondary pseudo-membranous manifestations, were entered in all the medical works as accepted truths, if not as demonstrated facts. Some of the questions may be merely mentioned here, viz: nervous affections during the disease, and after convalescence; the examination of the false membranes, both chemical and microscopical; the discovery of albumin in the urine (1857). But what attracted most attention from medical men was the treatment, medical and surgical, of this fearful disease. The first thing was the

Digitized by Google

general abandonment of blood-letting; the second, the rejection of all so-called specifics; thirdly, the adoption of the sustaining treatment; and lastly, tracheotomy.

Tracheotomy, after having been opposed by the most bitter opposition, denounced by some and ridiculed by others, was sustained by the test of experience, came out of the contest victorious, and "remains mistress of the field."—(*Simon.*) The period for the operation, formerly left till the last extremity, was placed beyond all controversy by those having most experience, at the much more favorable time, viz., at the commencement of asphyxia. But notwithstanding the constant reports and the undeniably favorable results in France, still in parts of Germany, in England, and in many parts of our own country the operation has been regarded and acted upon too much in the light of a "last resort."

UNITY OR DUALITY OF CROUP AND DIPHTHERIA.

On the question of the unity or duality (complexity) of the cause or causes of croup and of diphtheria, the profession is divided, even respecting the true membranous form of croup. The majority of practitioners of the present day believe in the identity of croup and diphtheria (Cohen), and I believe the number is increasing. Of the unitists we may mention the following names: Sir Thomas Watson, Hellier, Bristow, Sir Wm. Jenner (recently converted), the long list of distinguished Frenchmen, Meigs and Pepper, S. Bard, Jacobi, Pilcher, our own H. A. Johnson, R. G. Bogue, and many of the members of this Society, including, I believe, partly, our worthy President.

Of the dualists there are the names of Charles West, Aitken, the Germans generally (though fearfully confused), Wood, Flint, J. Lewis Smith, Barker (though he believes in the croup of diphtheria), Cohen, and many of the members of this Society so profess.

This is a question very difficult to settle by the exact methods; and it is no less important than difficult, for as a man's theory is, so may his practice be inclined almost inevi-

Digitized by Google

tably, though not necessarily, provided clinical observations demonstrate a given course of treatment to be generally, or even largely, successful. But this question cannot be settled by "the count of heads, or the clack of tongues." I might fill pages with illogical inferences and irrelevant statements on this point, from the writings of distinguished men. We must, however, hold firmly to the facts in this case, as in all others, if we would arrive at safe conclusions. The impossibility of discovering a difference, either *macroscopically*, *microscopically*, or chemically, between the false membranes formed in the different cases, is equally admitted by both sides—Smith, Steiner, Cohen (quoting Virchow also), and Simon, Jacobi, Meigs and Pepper. Again, there is no symptom or anatomical fact observed at the bedside which will enable the physician to say that the case is croup and not diphtheria.—(*Smith.*) E. Wagner has shown, by numerous and searching investigations, that there is no sharp dividing line between diphtheria and croup, an opinion with which Steiner is compelled to agree. The same writer affirms that true croup, as well as true diphtheria, may occur on the gums and throat as well as in the large air passages, but further says that most frequently the two diseases seem to shade into each other; that is, the affection appears on the gums and throat as diphtheria, in the upper part of the larynx as diphtheritic croup, and in the lower part of the larynx, in the trachea and bronchi, as croup.

In speaking of the starting point of the exudation, Steiner uses the following language, strange for a dualist:

> The exudation occurs sometimes in the form of true croup, and sometimes in a diphtheritic form, but the wretched confusion and uncertainty which still prevail among physicians in regard to the theory and nomenclature of these two processes would make it difficult to collect statistics showing their relative frequency; moreover, it must be frankly confessed that it is not always easy during life to make a clear diagnosis.

And there is no essential difference in the false membranes as they form in the different parts of the respiratory tube, except that as a rule they become less fibrous and more corpuscular or purulent as we descend towards the lungs, until the

Digitized by Google

croupous bronchitis has changed into a purulent or muco-purulent one.

J. Lewis Smith, in his report on this subject, made to the International Medical Congress, 1876, discussed the question under three heads:*

I. Croup a local malady; diphtheritic laryngitis the expression or manifestation of a general disease.

II. Anatomical characters identical in kind, as regards the state of the larynx, but differing in degree or intensity.

III. Clinical facts which indicate the duality of these two diseases.

At the close of Dr. Smith's paper a discussion followed in the medical section of the Congress, participated in by quite a number of the members, and the result was the adoption of the following resolution:

In view of the wide diversity of opinion existing in regard to the relationship of diphtheria and croup, the section prefers to recommend the paper of Dr. J. L. Smith for publication, with an expression of their opinion of its high value as an important contribution to the literature of the subject, but without a definite expression of opinion upon the point at issue.

In *Composition*, the false membrane is made up of (1) amorphous material, (2) molecules, (3) cells, (4) fibrillæ. In locality, it is found mostly on the naso-pharyngeal and the respiratory mucous membranes, but exceptionally it may be found on any of the mucous membranes, or on denuded surfaces of the skin anywhere.

MICROSCOPICAL EXAMINATION.

(1) The *amorphous material*, which is the basis or cement, so to speak, is more or less transparent and viscid, holding together the morphological elements.

(2) The *molecules* are of various forms and sizes, from a mere point to quite an appreciable size and regular form. They include (1) the elements of decomposition and disintegration of a purely chemical character, but not fat; (2) vibriones, bacteria, monads, micrococci or coccobacteria, as they have been variously termed; (3) vegetable germs and my-

*See my full report.

Digitized by Google

celia—*zygodesmus fucus* (Letzerich; see also *St. Louis Med. and Surg. Journal*, 1872, p. 214.); (4) fat globules, round, of various size, and soluble in ether and oil of turpentine.

(3) The cells are of the pavement epithelium or of the cylindrical and cilliary variety, dependent upon the part from which the pseudo-membrane is taken, granulated corpuscles, blood and pus corpuscles.

(4) The *fibrillated portion* consists of very fine striations, sometimes sufficiently parallel to give the specimen an appearance almost fibrous, at others they are crossing or reticulated in every direction.

CHEMICAL EXAMINATION.

Chemical examination of the false membranes seems to prove conclusively that the exudate is of a fibrinous character, though it is often spoken of as a fibro-albuminate. It is insoluble in hot and in cold water; it is contracted and condensed by acids, and dissolved by alkalies. Of the latter, the chlorate of soda has been shown by numerous experiments to possess a solvent power twice as active and more prompt than any other agent of this class.—(*E. Barthez.*) Lime water is also known to possess considerable solvent power, for which purpose Küchenmeister has recently brought it into therapeutical application.

The little red spots on the under surface of the false membranes, as well as on the denuded surface of the mucous membrane, are not the products of vascularization, but spots of bloody points caused by rupture of minute vessels. They had been regarded as the organization of vessels in the false membranes. The microscope, however, has shown that to be incorrect. They are minute coagula of blood, adhering closely to the separated surfaces. The epithelium is generally removed from the mucous membrane, and in exceptional cases there is ulceration.

HISTOLOGY OF CROUP.

The manner in which the false membrane is formed has been explained in two ways:

Digitized by Google

1. The endogenous cell action by which the epithelial cells become enlarged and their contents multiplied, and thus form the molecular and morphological elements of the false membrane, while at the same time these epithelial cells send out projections or offshoots which by coalescence form the matrix or network of fibrilæ among which the other elements become entangled.

2. The extravasation or transudation of amorphous and of morphological elements from the vessels of the mucous membrane, the amorphous, albuminous or fibrinous portion becoming coagulated, stratified and striated, and thus forming a basis and network for the morphological elements.

In my opinion, both these theories are partly true. But I have no doubt the extravasation has the preponderence. And the coagulation is dependent upon the essential cause of the disease—as much so as the peculiar products of variola or measles are dependent upon a peculiar poison.

LARYNGOSCOPIC APPEARANCES.

On account of the impossibility, in most cases, of making use of the laryngoscope in small children, from a want of co-operation on the part of the patient, the report of Munch, as given by Steiner, is of decided interest in several respects. The patient was a boy ten years old :

The mucous membrane was much reddened ; a marked membranous deposit covered the ary-epiglottidean ligaments, and still more copiously the vocal cords ; the glottis was narrowed, partly by the deposit upon the vocal cords, and partly by the paresis of the dilator muscles, the posterior crico-arytenoid. Later the whole larynx appeared to be covered with membrane ; at the same time it was noticed that the edges of the vocal cords were apparently agglutinated to each other at various points by a layer of fluid exudation. Subsequently the deposit disappeared under the continued use of caustics, but was renewed daily until finally only a thin, gauzy layer of membrane was noticed, which returned again and again with great obstinacy, especially upon the vocal cords. The vocal cords ultimately resumed their function, and manifested considerable vibratility, even while some of the membrane remained. By the sixteenth or seventeenth day the normal white color of the vocal cords was restored, and here and there a reddish streak was all that could be noticed."

Digitized by Google

Ziemssen has also noticed the exudation, the swelling of the vocal cords, and their immobility. See also Niemeyer, French transl., Vol. I. p. 26.

COURSE.—It may be added here that croup is an acute disease, of rapid progress, increasing in severity to the acme or to the fatal termination, with sudden and transient remissions, depending upon the expulsion of false membranes or other temporary causes.

The DURATION is short—from three to four days; some cases, however, may die sooner, and some continue for several days, or even, exceptionally, run into weeks, as I have seen. The duration is influenced by the age, the strength of the patient, previous condition, and the *genius epidemicus.*

Before we accept the opinion of any writer on the termination of croup, we must know what, precisely, he means by the term croup. Every writer of distinction testifies to the high mortality of this disease as we have defined it. "It is, under all circumstances," says Steiner, "a deadly disease, and the prognosis is in general doubtful. * * The proportion of recoveries is stated by all writers of honesty and diagnostic skill as lamentably small." The termination of croup is most frequently death.—*Simon.* In the majority of cases croup ends fatally.—*Churchill.* Two-thirds die.—*Marley.* *Vieusseux* says one-half died (in his early practice, 1775). Two out of three die.—*Michaelis* and *Bard.* In membranous croup recovery rarely takes place.—*Pilcher.* The great fatality of croup is admitted by all.—*Barker.*

At Hospital Sainte-Eugenie, of 160 cases treated medically, 58 recovered and 102 died. As with the duration, so with the final result; the attendant conditions—age, previous condition, epidemic influence, hygienic advantages, treatment and complications will have much to do with determining the results.

THE MANNER OF TERMINATING.—As the case approaches the fatal termination the suffocative attacks are less intense, on account of diminishing ability of the part and of the system to recognize and to resist them; drowsiness becomes increased, the

Digitized by Google

dyspnœa continues and increases, the pulse becomes small, weak, thread-like and very frequent, and death is ushered in under one of two forms: (1), either by asphyxia from the local obstruction to respiration, with accompanying symptoms, viz.: cyanosis and more or less of convulsive movements; or (2) by general prostration, as exhibited by the general indifference, pallid, waxy countenence, loss of expression, and death resulting from carbonic acid and diphtheritic poisoning.

If, however, the case should have a *favorable termination*, the characteristic symptoms become ameliorated, the dyspnœa is less embarrassing, the cough more moist, the suffocative attacks are farther separated, the countenence is more natural, and the pulse slower.

In the convalescence the physician must bear in mind the fact that dangerous symptoms of various kinds may arise, such as the nasal twang, aphonia, difficulty of swallowing, restrained respiration, which may be caused by paralysis of the different parts to which these symptoms point; and indeed the nervous lesion may extend to almost the entire body.

Paralysis Following Diphtheria.—From statistical documents carefully compiled, the proportion of cases of paralysis following diphtheria is about one-sixth. But it must be remembered that many of the recovered cases are not seen long enough to know whether paralysis follows or not, and many die before the supervention of this accident; hence, Roger estimates the proportion affected as from one-fourth to one-third of those who do not die in the first part of the disease proper.

DIAGNOSIS.

Under the head of "Symptoms" the capital points in the course of croup were set forth sufficiently in detail. It will only be necessary to point out some symptoms and circumstances by which croup may be distinguished from some other diseases with which it has been confounded. The disease most nearly simulating croup is catarrhal laryngitis, larnygitis stridulosa, or false croup.

Digitized by Google

The symptoms in this latter disease are of milder degree generally. The attack comes on suddenly, in the night, frequently without any warning. The voice is seldom entirely obliterated, though it may be hoarse and rough. False croup is not preceded by membranous angina, though croup is not always ushered in by this angina.

False croup partakes in its manifestations very much of the nature of acute laryngitis. The suffocative attacks are early in the disease, and frequently in the beginning, and soon occur at longer intervals, and are of less intensity; while the opposite is the course with croup, the symptoms progressing instead of diminishing. There is no expulsion of false membrane in false croup; neither does *asphyxia* appear, though temporary suffocation may occur.

At the beginning, when there is a moderate degree even of dyspnœa and aphonia, it is not always safe to pronounce positively what the future may develop. The whole history will develop the true character of the case, but prophesying is seldom profitable before data are presented.

Acute, grave cases of *laryngitis* have many of the same symptoms as croup. But the former often follows some other acute disease, such as small-pox, or measles, or scarlatina, and then may be regarded as secondary. In some cases making an accurate diagnosis will require very careful observation, and even then a positive opinion may not be based upon sufficient evidence. The presence of false membrane on the mucous surfaces, or expectorated, is regarded as pathognomonic of croup.

PROGNOSIS.

To what I have said under "Termination" may here be added that the prognosis is always doubtful, and should be given with great reserve.

Simon reports, from 1826 to 1840, 3,845 cases, of which only 961 recovered, and 2,884 died, that is, one recovered out four cases.

From 1841 to 1858 the numbers rose to 6,876 cases, of which

Digitized by Google

1,146 recovered, and 5,730 died, viz: one out of six cases. Tracheotomy has added greatly to the favorable issue.

Under prognosis Steiner says:

Out of quite a large number of cases occurring in my practice, *before I had adopted the practice of tracheotomy*, I saw but three recoveries. Since 1863, however, this discouraging rate has been so much improved by the employment of tracheotomy that the mortality has at different times amounted only to sixty, sixty-five and seventy per cent. Bricheteau states it at sixty-nine, Franque at sixty-eight, Trousseau at fifty, and Greve, in Sweden, at twenty-three per cent.

I will return to this feature of the case under "Tracheotomy." "Finally," says Simon, "as a general rule, we should never lose hope of saving our patient."

THE TREATMENT

Very naturally divides itself into Medical and Surgical.

MEDICAL TREATMENT.

The study of the therapeutics of croup during the last fifty years, or even from the beginning of the present century, justifies us in abandoning the claim of any agent as a specific in the treatment of this disease, whether local or general.

Blood-letting, mercurials and alkalies, as having a decidedly beneficial effect, have also fallen into disfavor with the profession. Bromine, syrup of copaiba, and cubebs, and especially sulphate of copper, have their advocates. The latter has been recommended by numerous authors of distinction, and it still holds considerable reputation in this country, through the writings of the late Niemeyer. Samter, who studied its action carefully, comes to the following conclusion: When emesis still follows its administration, he doubts not the propriety of this treatment for croup; but when this action is no longer produced, paralysis is supervening, and it is proper to operate.

Its depressing effect, added to that of the disease, will not be a favoring condition for the success of tracheotomy, while nothing has been gained beyond what would have been accom-

Digitized by Google

plished by less exhaustive agents. It is given in from one-fourth to one grain doses, repeated frequently.

The syrup of copaiba and cubebs has been given with reported success by Trideau, and was recommended by a physician in Washington City, in the transactions of a medical body of that city. It has not met the expectations of its advocates, at least yet, though it seemed to promise well in the cases attacking the larynx first.

Tincture of the chloride of iron (tinct. ferri perchloride) has been in use since 1858. It was brought to the notice of the profession about the same time by Heslop, of England, by Gigot, Aubrun, and Jodin, of France, and by Crichton, of Scotland, and its application in croup and diphtheria was probably suggested by its previous use in the treatment of erysipelas. It has been used locally and generally, singly and in combination, and it has to-day the confidence of the profession above any other single remedy for the membranous diseases, and approaches nearer to the rank of a specific.

Emetics.—English, French, Germans and Americans are in accord as to the great value of emetics in some form. Tartar emetic, formerly much used, has been replaced by less depressing agents, especially in the case of young children. It is still given in combination by a respectable number of practitioners. I must here add that if it should be chosen, its effect must be carefully watched, otherwise irreparable damage will be done by it. I prefer other means, for it must be admitted that the principal effect of an emetic in this disease is mechanical; hence, that which produces the most prompt and efficient action, with the least depression or other objectionable effects, is the one to be chosen. Simon prefers the syrup of ipecac, with five or ten grains of the powder added to each dose when a decided effect is desired.

Steiner prefers ipecac in combination with tartar emetic, "a

Digitized by Google

powder containing two grains of ipecac and one-sixth of a grain of tartar emetic, and five grains of sugar, to be taken every ten minutes" till it operates. "If diarrhœa be present, or if it follow the administration of this prescription, I select the sulphate of copper." This is very significant language, and carries with it the intimation of the danger which I have mentioned. Ipecacuanha is perhaps the most generally approved emetic by the four nationalities referred to. Within the last ten years, through the recommendations and published reports of Prof. Fordyce Barker, the turpeth mineral (hyd. sulphas flav.) has grown rapidly in favor with the profession of this country. It acts promptly, efficiently and kindly. I have been so well pleased with its action as to prefer it to all others. It is given in three to five grain doses, according to the age of the child, and repeated in fifteen twenty minutes if the first dose does not operate. It is not deemed well to repeat it more than once in the twenty-four hours, or even at a longer interval. Through the teaching of the late Prof. C. D. Meigs, alum in powder has been much used, both by the profession and in domestic practice. I have seen it more than once entirely fail to produce the desired effect. It is given in teaspoonful doses, mixed with syrup or honey, to be repeated in a quarter or half an hour if it does not produce vomiting. To increase its efficiency, powdered ipecac may be added to it.

Quinine was used in the treatment of croup as early as 1848, by Puls. As an antiseptic it is altogether probable that in the early stages of the disease its action is by contact with the morbid products. As an antipyretic and tonic it may be used, as Dr. Fordyce Barker suggests, in combination with verat. viride very beneficially in the advanced stages. As one of the chief remedies in uncomplicated croup it is not so much relied on as it is in the febrile stages of catarrh and pneumonia.

The local treatment must receive careful attention. *The external applications* may be either cold or hot. If the former

Digitized by Google

be chosen, with a view to reduce a simple inflammation, their applicability is *especially*, and may I not say only, in the beginning and early stage of the disease. The applications should be made by means of cloths wrung out of cold water and applied to the anterior part of the neck, and covered with a dry towel. They must be frequently repeated. They may be continued while symptoms of active, acute inflammation continue. These conditions will frequently not be present to any marked degree, and the long continued application of cold without corresponding local reaction will have an injurious rather than a beneficial influence. This will be the case if the inflammation is of a decidedly diphtheritic character. Hence, as a rule, where the larynx is involved, I prefer the *hot application*, made by the same method, viz., compresses wrung out of *hot water* and applied to the external throat; or by means of a sponge, as recommended by Dr. Lehman, of Torgau, frequently repeated until the surface is quite red. This is also applicable to the first stage.

RESUME OF THE MEDICAL TREATMENT.

1. Give an emetic—turpeth mineral from three to five grains; ipecac, in syrup or powder, or the two combined; sulphate of copper, from a fourth to a grain every half hour or till it produces free emesis; powdered alum with syrup, either alone or combined with ipecac; compound syrup of squills, that is, tartar emetic in this form—(hive syrup), from one-third to a teaspoonful, repeated every half hour until vomiting is produced. The above remedies are preferred in the order in which they are stated. If the catarrhal character should be suspected, an anodyne might be given with propriety, to quiet the system until symptoms were sufficiently marked to decide the case.

2. Tincture of iron and chlorate of potassium or sodium, in solution, with glycerine:

Digitized by Google

℞ Tinct. ferri muriatis, - fl ʒ iss—ʒ ij.
Potassii vel sodii chloratis, - - ʒ i.
Glycerinæ, - - - fl ℥ i—℥ iss.
Aquæ q. s. ad, - - - - ℥ iii.

Dose, a teaspoonful every half hour or hour. It may be farther diluted if required.

3. Regulate fever with tincture of veratrum viride.

4. Local application to the external throat of hot applications, frequently repeated (cold may be used in the beginning by those who prefer it); also counter irritation with turpentine.

5. Disinfectant or antiseptic gargles or washes to be used according to demands, for the throat or nose. Carbolic acid, from two to six grains to the ounce of water; or the above solution of iron, potash and glycerine; or lime-water ℥ iij. chlorate of potassium ʒ i, glycerine and water each ℥ i, may be used with the spray apparatus, according to one's preference.

6. Inhalation of steam by keeping the atmosphere of the room saturated, or, in addition to this, by means of some special apparatus; breathing the steam from slacking lime, or inhaling the spray of lime-water, repeated every hour or two.

7. Sustain the patient's strength by easily digested, nutritious diet (preferably milk), given at suitable times and in proper quantities. Give cold or warm drinks as preferred by the patient, guarding the quantity so as not to disturb the stomach.

8. Treat complications according to general principles. Daily remissions may be met with antiperiodics with great benefit; finally, when medical means fail, as they often will, resort to the *ultimum refugium*—tracheotomy—before it is too late.

SURGICAL TREATMENT.

In this branch of the subject under consideration, it will not be expected that the report shall cover more than the most im-

Digitized by Google

portant points in practice; neither would it be especially profitable; yet enough must be given, it seems to me, to show the status of the operation of *tracheotomy*, and its recent history to its present position in practical medicine. Those of the profession who have not given the subject much investigation would be somewhat surprised at much of the illogical argument offered against the operation in croup, to be found in some of our standard surgical works published only twenty-five years ago. (Velpeau's Oper. Surg., by Mott, Townsend's notes).

As we might very naturally have supposed, and as history has shown, tracheotomy was known and practiced at a very early date in medical history.—*Simon.*

AMERICAN REPORTS.

In Dr. Cohen's report from various sources, published and unpublished, there were 325 operations with 84 recoveries, 25 4-5 per cent. There were over forty operators [1874].

Dr. L. S. Pilcher, of Brooklyn, reports [1877] from 36 operators, himself included, 121 operations, 24 recoveries; 20 per cent.

*Dr. A. Jacobi (New York) has performed the operation about 200 times; 68 operations (reported), 13 recoveries; 20 per cent.

Dr. Wm. Porter (St. Louis) 17 operations (mostly in London), 4 recoveries; 23½ per cent. One of the 4 returned to hospital in two weeks, and died of pneumonia, perhaps a sequel.

Dr. John H. Packard (Philadelphia, 1878), 6 operations, 1 recovery; 16 2-3 per cent.

Prof. E. Andrews' report of his own and other cases, 21 operations, 4 recoveries; 19 per cent.

*New York *Medical Record*, February 17, 1877. Since 1868, has saved but a small percentage of suffocating children.—*Am. Jour. Obs.*, February, 1876.

Digitized by Google

LIST OF CASES ON WHICH TRACHEOTOMY HAS BEEN PERFORMED IN THE STATE OF ILLINOIS, FOR CROUP OR DIPHTHERIA.

No	NAME.	AGE.	CAUSE.	RESULT.	RESIDENCE.	OPERATOR.	DATE.	REMARKS.
1	Henry Kohn.....	4 yrs.	Croup, memb..	Im'ed'te relief. Recv'd	Beardsto'n.	Dr. J. G. Erhardt	May 16, '71.	Wore the canula eleven days before sufficient air would pass through the larynx.
2	P. McDonald...	5 yrs.	Croup, memb..	Im'ed'te relief: died of broncho-pneumonia on 5th day.	"	" " "	Aug. 31, '72.	Operated fourth day of disease. Breathed comfortably till third day after operation.
3	W. Lohmann(boy	2 yrs.	Croup, diph. ..	Died	"	" " "	Dec. 8, 1872	Operated seventh day of disease. Too long delayed; died in a few minutes.
4	Willie Schwaer.	5 yrs.	Croup, memb..	Recovered.	"	" " "	Dec. 15, '72	Immediate and permanent relief; removed canula sixth day.
5	J. Friese (girl)...	5 yrs.	Croup, memb..	Died... ...	"	" " "		Relief of dyspnœa immediate. Died third day, of pneumonia. In all cases, laryngo-tracheotomy. Dr Erhardt has operated twice since, in St. Louis, for diphtheria, with bad results.
6	Willie Winston..	8 yrs.	Croup, diph. ..	Recovered .	Forreston, Ogle Co.	" L. A. Mease..	Sept. 28, '75	Had been ill with diphtheria eight or ten days. Partly chloroformed. Extreme condition. Tube removed tenth day. "Patient snatched from the jaws of death."—*Dr. Winston.*
7	Clyde Shonte(boy	3½ y.	Diphtheria, followed by croup	Died.....	" " "	" T. Winston..	Oct. 11, '75.	Sick two days. Survived 26 hours. Diphtheria appeared on the lips and extended into the bronchial tubes. Delicate constitution.
8	....		Croup.....	Died... ...	Sullivan...	" E. W. Mills..		
9	....		.....	Died.....	"	" " "		
10	Sesena Doke....	4 yrs.	Croup.....	Died.....	Lovington.	" T. A. Collett	Jan'y 1, '71.	Moribund. Lived twelve hours.
11	Ida May Bunyan.	5 yrs.	"	Died.....	"	" " "	Jan'y 7, '77.	Lived twenty-seven hours.
12	Walter Love.....	2y.5m	Croup (laryngitis).	Died.....	"	" " "	Jan'y 2, '75.	Lived a few minutes. Moribund when operation was performed. Two or three ineffectual efforts to breathe.
13	Willie Hostetter.	5 yrs.	Croup....	Died.....	"	" " "	April 10, '72	Died almost immediately. Complicated with whooping cough.

Digitized by Google

No	NAME.	AGE.	CAUSE.	RESULT.	RESIDENCE.	OPERATOR.	DATE.	REMARKS.
14	William Noll....	5½y's	Croup, memb..	Died.....	Virden	Dr. A.T. Bartlett.	Feb. 11, '75.	Unmistakable case. A complete cast of a portion of the bronchial tube thrown up. Lived 48 hours. Operated on 2nd day of disease.
15	Alice Blaney.....	5 yrs. 4 mos	Croup.....	Died.....	Norwood ..	" J. P. McClanahan.	March 5, '77	Low tracheotomy. Lived 14 hrs. Died of asphyxia, the disease having continued down the trachea.
16	Gussie Bartlett..	1 year 9 m.	Croup.....	Died.....	Jerseyville	" John L. White	May 6 1863.	Lived 3 hours. Operation too long delayed. Improved for an hour. Cause of death general congestion of lungs, rather than filling up of the trachea. Tube not suitable. Complaining two or three days.
17	Frankie Baxter..	4 yrs.	Croup.....	Recovered.	Chicago. ..	" R. G. Bogue ..	Feb. 21, '74.	Tube removed the 16th day. Chloroform was given.
18	Josie Moses(boy)	4 yrs.	Croup, diph...	Recovered.	"	" " "	Mch. 27, '74.	Tube retained 120 days. Had been sick about 3 weeks with diphtheria before operation.
19	Brice Miller, "	5 yrs.	Croup, diph.	Died.....	"	" " "	Dec. 15. '74.	Lived 12 hrs. Cause of death, probably syncope. Had been sick about one week. Child insensible during the operation.
20	Emma Kerga ..	3 yrs.	Croup, diph....	Died.....	"	" " "	Feb. 10, '76.	Lived 39 hrs. Chloroform was given. Had been sick with diphtheria over a week. Died from extension of the disease into the lungs.
21	—— Sussman....	2½y's	Croup, diph ...	Died.....	"	" " "	Apl. 29, '76.	Lived 24 hrs. Died from a commencing pneumonia. Gave little chloroform. Sick with diphtheria several days.
22	Larry McMullen.	5½y's	Croup, diph....	Recovered.	"	" " "	Aug. 27, '76.	Tube removed the 11th day. Chloroform was given. Had been sick two or three days.
23	—— Rossene.....	2y 2m	Croup, diph....	Died.....	"	" " "	Nov. 12, '76.	Lived 18 hrs. Chloroform was given. Died of lung complication.
24	Charley Kennedy	3½y's	Croup, diph....	Died.....	"	" " "	Feb. 5, '77.	Died 4th day, of asthenia and accumulations in the trachea below the tube.
25	Maud Stanley....	3 yrs.	Croup, diph....	Recovered.	"	" " "	Ap'l 21, '77.	Removed tube on 5th day, on account of ulceration. Chloroform was given. Prolonged convalescence; recovered perfectly. Had had diphtheria several days. Severe case.
26	Willie Kerfoot...	10 yrs	Croup, diph....	Died... .	"	" " "	June 23, '77	Sick 6 days; lived 10 hours. Malignant case. No chloroform.

Digitized by Google

No	NAME.	AGE.	CAUSE.	RESULT.	RESIDENCE.	OPERATOR.	DATE.	REMARKS.
27	Edward Cross...	7 yrs.	Croup, diph...	Recovered.	Chicage....	Dr. R. G. Bogue..	Aug. 27, '77	Sick for ten days previously. Tube worn 44 days. Chloroform was given. Granulations in the wound gave some trouble.
28	Willie McCoy....	7y 2m	Croup, diph...	Died.....	"	" " "	Oct. 10, '77	Died on 16th day, of pneumonia, and 10th day after tube was removed. Gave chloroform.
29	Baby Wasserman	2y 2m	Croup....	Died.....	"	" " "	Oct. 12, '77	Gave little ether. Lived 24 hours. Died of broncho pneumonia. Had been ill 36 hours.
30	Mary Donehue...	3 yrs. 11m.	Croup.....	Recovered.	"	" " "	Oct. 22, '77	Ill 24 hours. Gave chloroform. Tube retained 21 days.
31	George Healy....	7 yrs.	Croup, diph...	Died	"	" " "	Dec. 5, 1877	Lived one day. Gave chloroform. Died from accumulation of membrane and mucous in the trochea and bronchi. Had been ill of diphtheria several days.
32	Mabel S.....	5 yrs.	Croup....	Died.....	Grafton, Jersey Co	" E. L. Herriott	Oct. 15, '76	Had been sick about six days. Gave chloroform. Lived five hours. Died from the filling of the trochea with exudations. Tube a piece of No. 12 gum catheter.
33	Master Dawson..	2 yrs.	Croup.....	Died.....	Freeport ..	" L. A. Mease ..	Mch. 13, '75	Ill 10 or 12 days. Gave little chloroform. Moribund. Died in 15 minutes.
34	David E. Beaiy, jr.	3y 1m	Croup, diph...	Recovered.	Jerseyville.	" H. Z. Gill.....	Mch. 22, '77	Had been complaining 4 or 5 days. Gave no chloroform. Removed the tube on 6th day.
35	" " "	3y 3m	Paralysis muscles of glottis	Recovered.	"	" " "	May 11, 1877	Difficult inspiration for about a week. Gave chloroform. Wore the tube for — months.*
36	MattieCummings	19½m	Memb. croup..	Died.....	Bunker Hill	" Fer'd Brother.	Nov. 8, '71	Had been ill 40 hours. Lived 6 hours. Immediate cause of death prostration.
37	Martin Rohan...	50 yrs	Œdematous laryngitis	Died.	Madison Co	" " "	Jan. 31, '73	Had been ill 18 hours. Lived 45 hours. Cause of death, bronchitis.
38	Emma Hauschild	17 m	Diphtheria.....	Died.....	Macoupin "	" " "	Feb'y 5, '78	Had been ill 72 hours. Lived 1 hour. Cause of death, collapse, possibly hastened by hemorrhage.
39	—— Lancaster...	3 yrs.	Croup, memb..	Died.....	Cairo.....	" H. Wardner..	Feb'y 27, '68	Had been ill about 8 days Lived 12 hours. Died of exhaustion. No anæsthetics.
40	Fred Launsbury.	13 m	Croup, memb..	Recovered.	"	" " "	Dec. 15, '68	Had been ill 11 days. Wore the tube 128 days. Muffled voice remained. No anæsthetic. A little tumor of granulations would drop into the fenestra, and at times prevent breathing.

*Tube still remaining in, Sept., 1868.

Digitized by Google

No	NAME.	AGE.	CAUSE.	RESULT.	RESIDENCE.	OPERATOR.	DATE.	REMARKS.
41	— - Harman.....	4 yrs.	Croup, memb..	Died.....	Cairo.....	Dr. H. Wardner.	Mch. 12, '73	Had been ill about 8 days. Lived 36 hours. Death caused by pseudo-membranous bronchitis. No anæsthetic.
42	Nellie Gobble...	3 yrs.	Croup, memb..	Recovered.	Girard, Ill.	Drs. R. S. Cowan and R. J. Mitchell	Jan'y 8, '74	
43	Mary Walter....	5 yrs.	Croup, diph...	Died.....	"	Dr. R. S. Cowan	Dec. 15, '77	Lived three days. Cause of death, bronchitis.
44	Minnie Fish.....	4½ y.	Croup, memb..	Died.....	"	" " "	Jan. 15, '78	Lived four days. Cause of death, bronchitis.
45	Mary Voigt.....	13 yrs	Croup, diph...	Recovered.	Peoria.....	" F. Brendel...	Dec. 3, 1865	Had been ill several days. Last visit Dec. 23. Case reported by Dr. R. Roskoten.
46	Albert Bremwall	3 yrs.	Croup, memb..	Recovered.	Chicago...	" H. A. Johnson	—— , 1873	Ill several days. Insensible from asphyxia. No anæsthetic. Had malignant scarlatina four years after, without unpleasant effect from the operation, and recovered.
47	Bertha Bremwall	.....	Diphtheria as a complication of scarlatina.	Died.....	"	" C. W. Earle..	——, 1876	Immediate relief of dyspnœa. Died in two hours, of exhaustion from general disease.
48	E. Stapp (girl)..	12 m.	Diphtheria, laryngal complication.	Died.....	Washington Co.	" Jas. Phillips..	——, 1861?	Ill several days. Was in articulo mortis. Respiration was entirely relieved. Lived 12 hours. Death from pneumonia. No anæsthetics.
49	Nannie Keegan .	3 yrs. 10m.	Diphtheria	Died.....	Chicago...	" E. W. Lee....	Aug. 29, '77	Sick three days. Used chloroform. Lived 30 hours.
50	John Phalon ...	4 yrs.	Diphtheria	Died.....	"	" " "	Oct. 18, '77	Sick 10 days. Asphyxia imminent. Gave chloroform. Lived 2½ days. Died by asphyxia.
51	Clara Nolan.....	7 yrs.	Memb. croup [?]	Recovered.	"	" " "	Oct. 22, '77	Two weeks complaining. Chloroform. Artificial respiration necessary after the operation. Removed tube sixth day.
52	Matthew Curran.	4 yrs.	Memb. croup.	Died.....	"	" " "	Nov. 17, '77	Sick 36 hours. Lived 2½ days. Died by exhaustion. Chloroform.
53	Eddie Nolan....	4 yrs.	Mem. croup [?]	Died.....	"	" " "	Nov. 23, '77	Sick five days. Chloroform. Lived 12 hours. Died of exhaustion.
54	Elice Turcell....	3½ y.	Mem. croup [?]	Died.....	"	" " "	Dec. 7, '77	Sick four days. Lived four days. Died from asphyxia. Chloroform.
55	Mich'l O'Rourke	2y 2m	Memb. croup..	Recovered.	"	" " "	Mch. 18, '78	Sick 2 days. Removed tube 4th day. Chlorof'm

Digitized by Google

No	NAME.	AGE.	CAUSE.	RESULT.	RESIDENCE.	OPERATOR.	DATE.	REMARKS.
56	Bertha Nelson...	4 yrs.	Diphtheria	Recovered.	Chicago. ..	Dr. C. T. Parkes.	July 4, 1877	The disease showed itself the day following the operation. Wore the tube 4 months. Retention of tube caused by "exuberant granulations," destroyed by nit. arg. solid. Chloroform.
57	.....	6 yrs.	Memb. croup..	Died.....	Mendota..	" E. P. Cook. ..	Spring, 1854	Lived 54 hrs. Chloroform. "Dernier resort."
58	.....	4 yrs.	Memb. croup..	Died.....	"	" " "	.....	Chloroform.
59	.....	7 yrs.	Memb. croup..	Died.....	"	" " "	.....	Chloroform.
60 to 65	.. ..	.....	Four of croup, not epidemic; 2 of diphtheria epidemic.	Died..	Jacksonv'e	" David Prince.	.....	First four fatal from subsequent pulmonary engorgement. Last two fatal from apparent extension of the disease to the bronchial subdivisions.
66	Richardson (boy)	5 yrs.	Diphth. croup.	Died..	Clinton, DeWitt Co.	" John Wright.	Nov. 20, '77	Three days sick. Died on table. Another, younger, child died of diphtheria in the same family, 3 days later; was a favorable case had it been done early instead of moribund. Anæsthetic, ether.
67	Leinhardt Koot..	9 yrs.	Memb. croup..	Recovered.	Freeburg, St. Clair Co.	" F. Koeberlin.	Nov. 17, '77	Three days ill. "Patient with blue lips and staring eyes." Removed canula 6th day. On 4th day after operation the aphonia disappeared. Pulse 140 half an hour after operation. Second day after, in evening, temperature rose to 108°.
68 to 83	... .	.....	Croup and diphtheria.	4 recovered 12 died.	Chicago. ..	" H. A. Johnson	.....	It is possible that No. 46 is included in these 16.

Taking the whole number as eighty-three (83), and the recoveries as twenty-three (23), the per cent. of recoveries is twenty-seven and seven tenths (27.7), a very fair result considering the desperate nature of many of the cases.

The most successful operators, in considerable numbers of cases, are: Dr. R. G. Bogue, 15 cases with 6 recoveries—40 per cent.; Dr. H. A. Johnson, 16 cases, with 4 recoveries—25 per cent.; Dr. E. W. Lee, 7 cases, with 2 recoveries—28.5 per cent.

Digitized by Google

TWO OPERATIONS OF TRACHEOTOMY IN THE SAME PATIENT, WITH AN INTERVAL OF FIFTY-ONE DAYS.

CASE 1. David E. Beaty, Jr., aged three years and one month, of certainly medium constitution, and decidedly bright mentally. Was called to see him March 20, A. M., 1877. Previous to this date, as early as the 14th, he had a little fever, and in the evening had a chill, for which on the 15th some quinine was given. On the 16th was hoarse, but did not complain of sore throat. On 17th and 18th the hoarseness continued, but the child seemed not to be affected so as to attract special attention or create alarm in the minds of the parents, they having gone to church on the 18th. On the 19th, hive syrup was given by home prescription. He had some appetite, but diminishing for two or three days before I saw him. I found him entirely aphoneous, having an extremely dry, ringing cough; respiration not much embarrassed, fever slight, thirst marked, submaxillary glands somewhat enlarged [said to be so usually]. On examination of the throat, found some small spots on the tonsils, and on the posterior wall of the pharynx a patch about half the size of the finger nail; tonsils a little red. I at once expressed a decided opinion of the gravity of the case; gave an emetic of turpeth mineral, which acted promptly and well; left a solution of muriated tinct. of iron and chlorate of potash to be used as a frequent drink, and a solution containing quinine grs. x., tinct. opii. gtt. viii, with aromat. sulp. acid q. s., aq. ℥ i, a teaspoonful every two hours. I also left tinct. veratrum viride to be given in case there should be perceptible fever.

The father, coming home after I left, began to realize the serious nature of the case, and Dr. J. L. White, their former family physician, being in Jerseyville, was requested to see the case in consultation.

On examination of the case in the afternoon, the patches were not visible. Other symptoms were no better. Voice completely obliterated; wheezing audible at quite a distance.

Digitized by Google

Dr. White calls it membranous croup, but thinks not diphtheria, though he might "call it diphtheritic croup." Adopted the same treatment as in the case of Julia Neumeyer [a severe case treated in February], viz., hot applications to the neck, high temperature of the room, and the atmosphere saturated with moisture, the previous treatment to be continued. Dr. W. thought it as favorable a case for recovery as could be of the membranous form of the disease. The perfectly dry, ringing cough in conjunction with the wheezing respiration made the case to me one of much anxiety.

On the 21st, at 9 A. M., found the respiration much obstructed; had had a bad night; several severe paroxysms of approaching suffocation were reported as having occurred during the night. The characteristic symptoms were steadily progressing, with loud, dry, wheezing respiration. Gave the turpeth mineral, which was followed by moderate emesis and some relief. Continued the chlorate of potash and iron; also the quinine, at two or three hours interval. Suggested the probability of tracheotomy becoming necessary. The reply was to do what I thought to be best.

3 P. M.—Condition no better. All the indications for tracheotomy growing stronger. Suggested to have everything ready to operate at any time during the night.

At 5 P. M., spoke to Dr. Shobe of the probable necessity for the operation during the night. Applied vapor from vinegar and water, created by hot bricks in a bucket at foot of bed under the bed clothes.

7 P. M.—Still worse; respiration very difficult; depression of the ensiform cartilage and lower ribs very marked on inspiration; evident carbonization of the blood. Dr. S. was sent for. I prepared for operating. Before the doctor arrived there was a sudden marked relief following a fit of coughing. The operation not now thought to be imperative; indeed, not justified at the moment by the symptoms. The doctor remained an hour, then returned home; I remained all night. Temperature of the room maintained at 85°, and vapor continued.

Digitized by Google

22nd.—Respiration most of the night tolerably easy, after the sudden relief last evening, until towards morning, when it gradually became more difficult. Left for home at 8:30 A. M., expecting to return at 11 A. M. A messenger soon came, and Dr. S. was notified. At 10 A. M. the effort at inspiration was terrible to witness. Imperfect oxidation was present, but not strongly marked, except at one time during a severe paroxysm. I regarded the operation as absolutely necessary, if any more paroxysms should occur. Dr. S. thought the operation very doubtful, regarding it now as very late. We agreed to try the vapor from slacking lime. Little or no benefit followed. The father desired, if necessary, other council from a distance, and proposed to telegraph Dr. Armstrong of Carrollton, to come on the 5 P. M. train. This was readily agreed to, conditionally; that is, if necessity required the operation, we should proceed to operate at any time, and not wait; for I had no expectation the child would live till evening without surgical relief. We were to remain and be ready for any emergency. Two points were clear in my mind: (1) Progressive aggravation of the symptoms; and (2) imminent danger of suffocation. [See conclusions.] Towards noon the symptoms became more alarming, but no paroxysms occurred. We concluded that if no improvement began by 1 o'clock, P. M., we would operate. By the time dinner was over, the obstructed respiration had become still more marked, and the danger of suffocation imminent. Delay was no longer safe. I proceeded to operate, Dr. Shobe kindly assisting. The effect of the imperfect oxidation of the blood was plainly visible in the color of the fingers and face, and also in the general anæsthetic effect. Gave no anæsthetic. Some of the family and neighbors rendered efficient aid. I marked out the line of incision with dots of ink. Operated slowly and cautiously, after the first principle incision using forceps and the handle of the scalpel freely, pressing the vessels aside with blunt hooks. The inferior (median) thyroid vein was directly beneath the inferior portion of the first incision, and distended

Digitized by Google

to the size of a crow quill. Not a vessel required ligation. I believe there was no misstep in the operation. The hemorrhage was somewhat embarrassing. The thyroid gland was scarcely observed, and at most not to annoy. Opening the trachea would have been, perhaps, a little easier had it been held with a tenaculum, though it was *thoroughly cleared before the incision was attempted.* At this point considerable self-control is needed to prevent haste in opening the trachea before the dissection is completed. The neck was quite short, and the usual amount of adipose tissue was present to obstruct the operation. The opening was dilated by means of a bent loop of wire, while I cleared the trachea of a considerable amount of thick, tenaceous mucus and lumps of false membrane, with the curved forceps. After this the tube was introduced without difficulty. The relief was perfect from the time the incision in the trachea was dilated and cleared, the child falling asleep almost as though fully under the influence of an anæsthetic. In fifteen minutes the respiration was 40 per minute, and in an hour down to 36.

The demand for water was most urgent and persistent; and it was quite necessary to limit the supply in order to prevent disturbance of the stomach, there being an unfavorable disposition to nausea. Examined the urine in a spoon, but could not say there was albumen in it. On the second day after, I found a trace of albumen, examined in the same way. The early part of the night was spent with considerable comfort by clearing away the tenaceous material as it was forced into and out of the tube, using the curved forceps to remove any obstructions, and occasionally removing and cleansing the inner tube. About 10½ P. M. there occurred a severe fit of coughing, and the tube was soon filled with mucus and membranes, and respiration for the time was arrested. Fortunately I was near at hand (though taking a little rest, having been up the most of the two preceding nights), and quickly removed the inner tube, also removed with forceps the additional mucus and membranes, thus relieving the obstruction to such an extent as

Digitized by Google

to restore the respiration. I would remark here that I found it almost necessary to leave the inner tube out after that, during the night, it then being possible to clear the outer tube frequently with the curved forceps when necessary. I watched him pretty closely the remainder of the night, but found the obstruction increasing towards morning, and by 7 o'clock he appeared to be sinking from some impediment to æration, yet *nothing in the tube.* With the needed assistance I removed the outer tube, cleared the trachea thoroughly of all mucus and hard, tough lumps of false membrane; all of which restored the respiration and rescued the child from impending death.

Prostration was decided, and the child greatly exhausted. When commencing to change the tube the father (before perfectly courageous and apparently hopeful) said, "The child has been dying for the last twenty minutes."

A profound and prolonged sleep followed, after which our patient began taking some nourishment, more than at any time before. Frequent fits of coughing, however, occurred, in which the same kind of material as before, was brought up, and sometimes quite considerable lumps, thick, deep yellow or dark yellow, were thrown out with considerable force, and at other times, brought out with the forceps; but it was evident that the material was losing its consistency and toughness. A part of the day he was quite cheerful. Towards evening the obstruction increased. I removed the inner tube, applied an 80-grain solution of nitrate of silver to the edges and surface of the wound, used a spray upon it of a 40-grain solution of carbolic acid, cleared the trachea, and replaced the tube. In the early part of the night I gave a saline cathartic (Rochelle salts), there being considerable fever, and at 10 P. M. and 10½ P. M. gave one drop of tinct. verat. viride. After the second dose he vomited slightly; was very restless, tossing about constantly. The excessive thirst continued. About midnight the cathartic acted, and he became less restless. Towards morning I began using a weak solution of salt and water, pouring a

Digitized by Google

few drops into the tube,* which seemed to soften the material and facilitate its expulsion very much, greatly to his relief He took nourishment sufficiently. I did not replace the inner tube during the remainder of the night; the outer one seemed to transmit the air and the secretions much more freely, and the curved forceps could be used to better advantage.

24th. Patient is restless only at times; wants to drink too much water. There is an eruption on the upper part of the chest, and before noon it appeared on the palms of the hands also. At noon, while sleeping, the respiration was 48 per minute, having ranged from 45 to 50 during the last twenty-four hours. The discharge seems rather reddish. At 5 P. M. pulse 135, respiration 50, temperature 102°. Removed and cleansed outer tube, which could be easily done; re-applied the 80 gr. sol. of nit. silver; used the carbolic acid spray freely. There was some albumen in the urine. Having remained with the case for forty-eight hours (constantly since the operation), I now took my leave for twenty-four hours, Dr. S. remaining in my absence.

25th, 1 P. M.—The inner tube required to be removed several times during the night; there seemed also to be more fever. The secretion is reported to have been bloody. Appetite poor.

8 P. M.—Respiration 36 per minute, and almost inaudible; he sleeps quietly, and more than at any time since the operation. Omit now the vapor. Keep the temperature of room at 75°.

26th—Removed the tubes; cleansed the wound with soap suds. The inferior thyroid vein had become impervious to circulation, and apparently dead, and I removed it with the scissors. After severe fits of coughing there is a little hemorrhage from the lower part of the wound.

27th—Removed the outer tube and left it out more than an hour; then replaced it. On account of my not remaining at

* See Gurdon Buck, New York *Medical Record*, 1872, p. 12.

Digitized by Google

the house, Dr. S. remains to-night. Keep the temperature at 75°. Gave any kind of nutritous food desired.

28th—Nothing special occurred last night; removed the tubes permanently this forenoon. Saw the child twice only, on the 29th and 30th, and once a day till April 6th, excepting the 5th, and again on the 9th, when I find the last of my notes to the following effect: "Wound nearly closed; air escapes through the wound only on coughing; speaks aloud with little effort; appetite good." From this date I was absent from home nearly two weeks. But nothing occurred to produce any anxiety until the night of May 6th.

CASE II.—I then saw him again for the first, and found inspiration difficult, especially so when sleeping or resting, and in the latter part of the day and night. This condition has shown itself for some days, but when he was thoroughly awake and playing, it attracted but little attention, and produced but little embarrassment. On the 7th he was quite bad. Prescribed for him, but did not see him again, there being considerable relief, till May 10th. The obstruction from this time became more and more marked, and the *inspiration steadily more difficult, when drowsy or sleeping.* Remedies seemed to produce little or no effect. This condition continued, becoming gradually more aggravated, but without apparent paroxysm, the expiration, so far as I could judge, being little, if at all, obstructed. I remained with my patient during the nights of the 10th and of the 11th, prepared and expecting to be compelled to perform tracheotomy the latter date. At times, the child being very weary and sleepy from the long continued and laboring effort at breathing, there would be several fruitless attempts at inspiration, and until he would arouse himself and take a deep, forced inspiration. Even this condition grew worse, and I presented strongly the only remedy which offered any hope, viz., tracheotomy. This was reluctantly received inasmuch as it seemed to appear to the parents that the other operation had not cured the child.

My opinion of the nature of the case in this second attack,

U of M

Digitized by Google

or sequel of the former, may as well be stated here: I regarded it as a *paralysis of the muscles of the glottis* (the dilators particularly), or at any rate, a loss of balance between the dilators and the contractors, possibly spasm of the latter. I expected immediate relief by opening the trachea, and did not intend to let the child die without the operation, unless I should be opposed or overruled. My convictions were clear as to the course to be pursued. Dr. J. L. White was telegraphed to come in consultation, the parents thinking the child would not get well, but desired to leave nothing undone. Fortunately, the Doctor got a train immediately, and was here sooner than expected. I need scarcely say that after an examination of the case, together with the history of it, there was a perfect agreement as to the course to be pursued. We proceeded to operate about 11 A. M., *fifty-one days after the first operation.* There was some anæsthesia already present from imperfect æration of the blood. The Doctor, however, preferred chloroform as the anæsthetic to be given. Patient took it slowly, of course, on account of the imperfect respiration, hence more was required to produce the desired effect, which was guarded and limited. I operated rapidly, being guided by the line of the previous incision. There was no hemorrhage to embarrass; yet with all possible haste, the child had ceased to breathe before the tube was introduced. I quickly inserted it, had the feet elevated high, inflated the lungs through the tube several times, and thus restored respiration, which soon became regular. The secretion thrown out of the tube was mainly mucus.

I took no notes of the case after this operation, for some weeks; and there was nothing of special importance to require note in the recovery from this operation. Saw the patient daily for some time. Gave various forms of tonic treatment, cod liver oil, and substantial diet. Perhaps I should have remarked that the voice was not affected in this latter difficulty or attack. In the latter part of May the respiration seemed to be entirely clear, with the tube in.

JUNE 20.—" Cannot sleep with the tube out if the opening

Digitized by Google

in the trachea is entirely covered and closed. The same difficulty as formerly exists *with inspiration.*"

JULY 5.—Began the local use of electricity and stimulating applications to the glottis. These were continued for some time, but with apparently not much benefit. During August and September the child was visiting in Iowa or Wisconsin. On his return I thought he seemed decidedly improved in general condition. On the way home, however, they stopped at Bloomington, and Dr. White had an opportunity of seeing him again. The Doctor suggested having a fenestra made in the tube, which I had done, with apparently some relief. This continued with little change, he being comparatively comfortable and well otherwise, till November. At this latter date the tube was left out all night, I staying with him till after midnight. There was no special or considerable disturbance. The next day, November 3, the parents wanted the tube in again, not having expected to leave it out altogether. We found very considerable difficulty in re-introducing the tube; indeed we found it impossible to introduce the same tube, which was of uniform diameter the entire length. I introduced a bit of sponge covered with a very thin piece of rubber tissue attached to a wire, and leaving that in an hour or more. I then introduced another tube, which had a gradually increasing diameter, the lower end being about the size of the other tube. The parents were fearful something might occur, and have kept it in, except to remove and cleanse it, until the present, September 25, 1878.

OPINIONS OF THE JUSTIFIABLENESS OF TRACHEOTOMY IN CROUP, DIPHTHERIA, OR OTHER DISEASES.

Dr. Samuel D. Gross: "In diphtheria, as in croup, tracheotomy is seldom a successful operation, and still it is, in my judgment, in many cases a highly proper one. Even when it cannot save life it should often be performed to prevent impending asphyxia, and thus afford the patient a more easy mode of death."

Erichsen: "It is as unpermissible for a surgeon to allow a patient to die of laryngeal asphyxia without an attempt at relief by opening the windpipe, even though life appear to be extinct, as it would be to let him

Digitized by Google

die of hemorrhage without attempting to contract the bleeding vessel. In diphtheria, as in croup, tracheotomy may be performed when the patient is in imminent danger of death from laryngeal obstruction."

Dr. Frank H. Hamilton: "Tracheotomy in diphtheria, under well-defined conditions, is no longer a question of doubt, but justifiable."

Oertel: "Tracheotomy in diphtheria is indicated only when the local affection preponderates."

F. C. Skey: "We do not pretend to be governed by the presence of this or that form of disease, but by the pressure of symptoms, which, if imminent, demand artificial opening, to whatever class they belong or in whatever region they originate. * * With such symptoms [naming them], and with threatening suffocation, the surgeon has no alternative but that of operation [tracheotomy]."

Walton: "In the advanced stage of the disease [croup—acute laryngitis] medicine, I fear, can effect but little. But surgery may be more successful. * * This [tracheotomy] is one of the triumphs of the healing art."

"When the distinctive symptoms declare that the exudative disease [diphtheria] is present in the larynx, the question of tracheotomy is forced upon our attention. * * These two points ascertained [laryngeal exudation and advancing severity], the sooner the operation is done the better."

Aitken: "The evidence, however, is daily accumulating which shows that tracheotomy ought to be resorted to much oftener, as a remedy for croup, than it has been, and at a *much earlier period of the disease;* not as a last resort, when death from asphyxia appears imminent, and after treatment of the most depressing kind."

Niemeyer: "However great the number of failures [in tracheotomy], it is not admissible in any case not to undertake the operation if the other remedies do not give us results."

Cohen: "That tracheotomy saves many croup patients from death, otherwise inevitable, and that, too, even under unfavorable circumstances, there has long been no reason to doubt. * * The indication for the operation exists whenever it is apparent that death from suffocation cannot be averted by any other means."

Dr. Austin Flint.—His answer to the question is the same as his answer to the other question, "Are lives ever saved by it?" "Though the chances for success might be ever so small, the operation should not be withheld."

Pilcher: "Tracheotomy is indicated in all cases of croup in which laryngeal stenosis becomes so great as to become an element of danger, either immediately, by rapid suffocation, or by a more gradual asphyxia."

Digitized by Google

Prof. H. A. Johnson: "Tracheotomy, or laryngotomy, should be performed in all cases of threatened asphyxia from causes which cannot be speedily removed by other methods, as, for instance, * * 4. Acute inflammation, simple or diphtheritic, producing so much obstruction to respiration as to materially diminish oxygenation of the blood."

A. W. Barclay, St. George's Hospital: "Our chief resource for prompt relief to breathing is tracheotomy. Justifiable in diphtheria where the dyspnœa is so urgent as to throw other symptoms into the shade."

Druit advises tracheotomy for threatened asphyxia from croup or diphtheria.

R. G. Bogue: "Tracheotomy should be resorted to in all cases [membranous croup and diphtheritic croup the same] where death is threatened by suffocation from obstruction in the larynx, and as soon as the breathing has become insufficient to sustain the vital powers."

Steiner.—Of tracheotomy he says: "No other means fulfill these indications [to establish a new provisional air-passage and assist nature in her efforts to cure] so certainly and so directly."

Trousseau believes the operation should be made, no matter what degree of asphyxia has been reached.

Mr. Spence: "The practitioner should not be discouraged by reason of repeated failures to save life by tracheotomy."

Simon: "If, after using these [medical] means, the croupal affection progresses, the attacks of suffocation increase, if asphyxia commence, it is necessary to decide to perform tracheotomy. * * Tracheotomy remains mistress of the field for all cases of croup which the medical treatment cannot arrest."

Fordyce Barker: "I have often found it necessary to recommend the operation in consultation, and have seen several cases of recovery after the operation."

A. Jacobi: "Of its value I am convinced."

E. W. Lee: "I think it ought to be done, no matter how desperate the condition."

All these are among the latest and highest authorities on the subject. To multiply the number would be easy, but the sentiment would be the same. Hence, if authorities have any weight, if there is any argument in language, or evidence in facts, the justifiableness of tracheotomy in croup and the duty

Digitized by Google

of the medical attendant to have the operation performed are demonstrated propositions in medical science to-day.

For further particulars of the *operation*, the after-treatment, the accidents in the operation and subsequently, etc., etc., see the full report. I have given the detailed case somewhat fully because it covers most of the points in a majority of the cases, and many not in ordinary cases.

CONCLUSIONS.

1. Membranous croup is not necessarily a fatal disease, except in the epidemic form.

2. Its essential nature is, in the vast majority of cases, identical with that of diphtheria, though the means at our command, as thus far applied, are not sufficient to *demonstrate* this proposition.

3. The general treatment of diptheria, so far as applicable to croup, gives better average results than when the latter is treated as simply an acute inflammation.

4. The treatment most generally approved and giving the best results is: (1) emetics having the properties of promptness and efficiency, without producing depression of the system, turpeth mineral and ipecac being preferred; (2) tonics and disinfectant remedies, viz.: tinct. chloride of iron, and the chlorates of the alkalies, in full and frequent doses, and the same classes of remedies applied to any visible manifestation of the disease; (3) the local application of steam by inhalation, or the vapor from slacking lime, or the spray of freshly prepared lime water. Treat the fever and remissions respectively with veratrum and quinine.

5. Support the vital forces by an easily digested, nutritious diet.

6. Treat complications according to their general nature.

7. *Tracheotomy* is an established operation for all cases of

Digitized by Google

"croup" not amenable to medical treatment, in which laryngeal stenosis is the chief, or one of the chief, elements of danger.

8. The operation should be resorted to in the latter part of the second stage, or early in the third; the earlier the operation the larger will be the per cent. of recoveries.

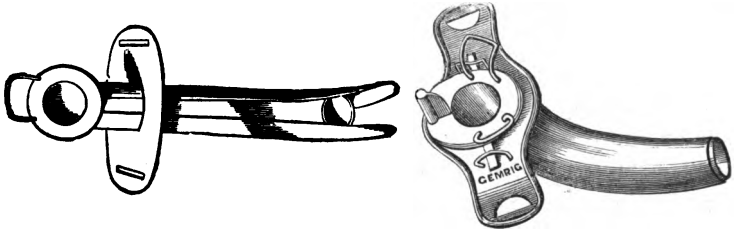
9. The only contra-indications to the operation are, (1) generalized diphtheria, which must, then, be of severe degree, and be largely the cause of the predominant symptoms, and (2) clot in the heart. "It is never too late to operate while the child is not positively dead." (*Archambault.*)

10. The obligation resting on the physician to give the patient the benefit of the operation is imperative. He may not withhold it directly nor indirectly; the patient or the friends may forbid it, and thus relieve the physician.

11. The operation should be performed deliberately and carefully; exceptions, when the emergency is great, and cessasation of respiration about to occur, or having occurred.

12. The trachea should be thoroughly exposed before any attempt is made to open it. Exceptions as above. Opening the trachea with a stab is a dangerous procedure. The trachea should be cleared of obstructions with the tracheotomy forceps, or with the suction tube, before the introduction of the canula.

13. The ordinary silver double canula, moveable in all directions in the plate, is the best for general purposes.



14. The inner canula should be removed frequently, and both should be removed, cleaned, and the trachea cleared as

Digitized by Google

often as, and whenever the emergency from obstruction demands.

15. The patient should not be left for the first forty-eight hours without an attendant competent to remove the tubes and any removable obstructions.

16. The canula should be permanently removed as soon as practicable.

17. Many patients are lost from a want of proper after-treatment.

18. Every practising physician should be prepared to perform the operation, or to have it done, whenever needed.

19. An anæsthetic should not be given if there exist sufficient asphyxia to produce appreciable anæsthesia; and whenever given it should be done with the utmost caution.

20. A careful watch should be instituted and continued for some days or weeks, for the accidents of local or general paralysis.

REPORT OF THE COMMITTEE ON DRUGS AND MEDICINES TO THE ILLINOIS STATE MEDICAL SOCIETY, MAY, 1878.

The Constitution of the Society requires the Standing Committee on Drugs and Medicines to report on all discoveries and improvements in the materia medica made in this State during the preceding year, and on the adulteration of drugs. If by *discoveries*, is understood the actual discovery and application of new remedies; and by *improvements*, new or more accurate application of old ones in the prevention or treatment of disease, and we adhere rigidly to the bounds of our own State, our report would be exceedingly brief; for we are not aware that the past year has been marked by the discovery of any new remedial agents, either by the pro-

Digitized by Google

fession of this State, or that of the whole country. That we, equally with the profession elsewhere, have been extending our knowledge of the uses and capabilities of many of the articles of the materia medica, by careful clinical observation, there can be no doubt. This is especially true in regard to such articles as have been brought to the attention of the practitioner within the last few years. For instance, several of our members have further tested and verified the value of the viburnum prunifolium as a remedy for relieving that grade of uterine irritability that predisposes to the occurrence of abortion, and sometimes, also, renders the menstrual periods either too frequent or too profuse, or both. The fluid extract, in doses of half a fluid drachm, given three or four times a day, is an efficient uterine sedative; but to render it available in preventing miscarriages, its use must not be delayed until the abortive process has already commenced. Others have not only verified the great value of salicylic acid and salicylate of soda in the treatment of acute rheumatism, but have extended its use to the treatment of active febrile conditions, marked by high bodily temperature, whether from local inflammations like pneumonia, or from idiopathic fevers; and with such marked benefit as to prove it not only a most valuable anti-rheumatic, but also *anti-pyretic* remedy. The essential ingredient in oil of thyme, called thymol, has been proved to possess antiseptic properties of so active a character as to place it in competition with the carbolic acid for all antiseptic purposes. Several of our practitioners have had their attention called more definitely to the necessity of great caution in the doses of medicine, especially of a narcotic character, to be used hypodermically. The rapidity or suddenness with which the full effect of medicine is developed in most instances when thus used, makes what would seem to be very moderate doses productive in some instances of dangerous consequences.

Little more than one year since I directed the attention of the profession to the properties of the Ænothera Biennis as a remedy for relieving such cases of asthma as result from the

Digitized by Google

reflex influence of gastric irritation and indigestion. Since that time I have tested it still further, and have found it not only valuable in the special class of cases of asthma first indicated, but also equally beneficial in relieving those cases of indigestion that seem to depend on simple hyperæsthesia of the mucuos membrane of the stomach, without asthma. The preparation used has been the fluid extract of the herb, in doses of from twenty-five to thirty minims every four or six hours. I am satisfied that it produces a sedative effect on the pneumogastric, and probably also on the cœliac, cardiac and pulmonary plexuses of the sympathetic system of nerves. It appears to have very little influence over inflammatory or catarrhal asthma. The alleged sialagogue and diaphoretic properties of the jaborandi, the tonic and calming influence of the eucalyptus globules, and the expectorant qualities of the grindelia robusta, have all been sustained by the further tests clinically during the past year.

The reading of a paragraph in some medical publication concerning the influence of the fluid extract of the cactus grandiflora, or night blooming cereus, over cardiac palpitations, led me to a clinical test of its medicinal virtues during the past year. The first case in which it was given was that of a female, aged about 28 years, whose nervous and digestive functions had been greatly impaired by the habitual use of morphine and alcoholic preparations. One of her most distressing symptoms while endeavoring to recover from the effects of her habit was cardiac palpitation, more especially during the early morning hours. From three to five minims of this fluid extract, given from four to six times in the twenty-four hours, afforded her great relief. Another patient was a man of good habits, but affected with chronic enlargement of the cervical glands, and apparently also of those along the bronchial tubes, and frequent paroxysms of suddenly recurring palpitations, and with feelings of suffocation whenever attempting to take a recumbent position. He has been using the fluid extract of the cactus grandiflora about two weeks, with decided benefit in keeping the action of the

Digitized by Google

heart more regular. It appears to exert a quieting influence over cardiac excitability, without any visible effect on the functions of the stomach or excretory organs. Although at present very expensive, it is certainly worthy of further investigation.

During the last few months bromide of arsenic has been used with alleged extraordinary success in the treatment of epilepsy. It is represented as not only more efficacious in its curative influence over epilepsy than the bromides of potassium, sodium and ammonia, but wholly exempt from the tendency to produce troublesome cutaneous eruptions. During the last four or five years I have administered the bromides of potassium and ammonia in solution with the liquor arsenici et potassii (Fowler's Solution), both in cases of epilepsy and chorea, with good effect as a curative agent, and without any cutaneous eruptions.

Improvements in the materia medica, however, do not consist solely, or even chiefly, in the introduction and trial of new remedies, but equally in gaining more exact knowledge of the modus operandi and therapeutic capabilities of remedial agents long familiar to the profession. Water, in the forms of cold, warm, and vapor baths, quinine, digitalis, and alcoholic drinks, are among the older and more familiar articles of the materia medica, yet it was not until the study of their effects in connection with clinical thermometry, during the last few years, that we have began to see clearly their mode of action, and to appreciate more fully their exact value in the treatment of disease. Indeed, your committee regard it as far more important to make advances in this direction than in the discovery of new agents. To increase the extent and accuracy of our knowledge concerning the mode of action and remedial value of such remedies as we have; to secure their preparation for use in convenient form and of standard strength and purity, and to diminish as far as possible their cost to the suffering part of mankind, are the three objects most worthy of the constant and earnest attention of every practitioner of the healing art. The first is to be done chiefly by two distinct, yet coin-

Digitized by Google

cident modes of investigation, namely, by direct experiment on living animals, and by special clinical study at the bedside of the sick. Aided as we now are, or may be, by instruments for more correctly measuring the more important processes and functions being performed in the living animal organism, and a more exact and physiological knowledge concerning such processes and functions, it is possible to determine much more readily and accurately the action of any given remedy than at any former period in the history of medicine. To secure the second object requires the intelligent and cordial co-operation of the practitioner and the pharmaceutist or drug manufacturers, and would involve an entire abandonment of the system of manufacturing and using ready made prescriptions or combinations of medicines furnished at wholesale. In the estimation of your reporter, the sole duty and object of the pharmaceutical chemist or drug manufacturer should be to separate the active principles of organic substances from the crude and inert matter with which they may be associated, and to present the profession with such separate medicinal agent in accordance with a given standard of strength and purity, and in a form as reliable and convenient for preservation and use as possible. All combinations of medicines not strictly chemical in their nature, should be determined solely by the prescription of the physician made for the patient, and adjusted to his or her individual indications or needs. This would at once free the profession from an immense amount of the most unreliable and costly materials in the form of elixirs, syrups, powders, pills, &c., compounded by this manufacturing company and that, and no two of which are alike. To secure the accomplishment of the third object named, that is to lessen the onerous burden imposed upon the sick by the present system of dispensing medicines, there appears to us but one practicable method. It has been suggested that each practitioner should dispense his own medicines. But for a physician in active practice to do this properly himself, is impossible, on account of want of time, if for no other reason. If he should keep a sufficient assort-

Digitized by Google

ment of properly selected drugs, and a competent private clerk to dispense them for him, it would make the system more expensive, instead of less so. If, however, the business of dispensing medicines on physicians' prescriptions could be separated from all other traffic, and instead of being conducted in a costly and elegantly-fitted drug store on every third corner of the streets of our cities and villages, it was placed in quiet, inexpensive rooms, supplied with cases of medicines selected solely for dispensing, and the necessary specially qualified prescription clerks, all needed medicines could be dispensed more accurately and far more economically than is done at present. There is no more reason why the business of filling the prescriptions of physicians should be connected with the traffic in paints, oils, dye-stuffs, toilet articles, fancy goods and cigars than with other dry goods and groceries. And I think there is no way by which the dispensing of medicines can be made safe, economical, and free from imposition and admixture with every species of proprietary nostrums, but to make it a perfectly separate business. For the foregoing very brief report the chairman of the committee alone is responsible.

N. S. Davis.

Dr. Hollister spoke as follows:

"I had not anticipated speaking on this subject, and yet there have come to my mind suggestions as this report was made, and among them this one: I think there ought to be embodied some intelligent expression by this body of what is the appropriate action to be taken with reference to a vast number of remedies which are very well prepared, but are presented to us in such a form that they admit of use only according to a formula asserted rather than by extemporaneous prescription prepared by druggists or ourselves. I speak of this because I have a conviction that it is a growing habit among members of the profession generally throughout the State to rely upon these remedies as thus prepared, and order them by name rather than by constitution. Of course, we anticipate a certain effect from the remedy named in the preparations and said to be contained therein, but we place ourselves perfectly at the mercy of those upon whom we rely for the manufacture of the articles, and, as has been remarked, unless we come to some definite and well-expressed conclusion as to what is the correct course to be pursued in this matter, we shall be more and more annoyed by nostrums vamped up in every direction for our use. I

Digitized by Google

am convinced that there is encroachment in this matter, from the fact that never in the history of medicine, probably, has there been such competition among houses engaged in the supply of medicine as in this year 1878, and if this encroaching still continue, where the evil shall end the profession will have to determine. And I had hoped some report could be made which, while liberal enough to approve all that is legitimate, should carefully draw the line between that and the illegitimate, and enable us to have some definite idea as to the manner of use and the method of prescribing untried remedies, or those not yet familiar by general adoption. I hope the next committee on drugs and medicines will have those points under consideration.

Another suggestion is this: I will not assert that it is more true of Chicago than of St. Louis, or any other city, but I venture the conclusion that we have never been afflicted with articles more spurious, or at best, more diluted, than to-day. Take the simple article of red bark—Peruvian; I can buy it at eight, ten, or a dollar and twenty or forty cents, just according to the quality I want. And so I might go through the list. Four or five years ago I took the trouble, or rather it was a labor assigned to me, to investigate, and I was surprised at the extent to which drugs had been tampered with, and in some cases entirely substituted; and I have the conviction that the matter is not being improved, but rather growing worse, and it is about time we began to know not only what we prescribe, but what the houses who deal in remedial agents are doing. And I suspect that a committee competent to make an analysis, or have it made—that would take specimens to be analyzed, and present to a body like this the facts in the case—would make a very damaging report to the drug trade.

These suggestions come to me as this subject is pending, and I think if we ourselves fail of making the successful recoveries we might, in cases under our care, it is owing to the quality of our remedial agents.

REPORT ON ELECTRO-THERAPEUTICS.

By Dr. PLYMMON S. HAYES, Prof. of Chemistry, Woman's Hospital College.

We are again called upon to review the work of another year, and have collected from various sources extracts from the records of experiment, observation and experience.

In presenting the most important facts which have been recorded during the past year, we find that there are reports of cases which are confirmatory of certain facts noted before by other observers, and that there are certain facts brought out

Digitized by Google

which clash with accepted views, and call for confirmation before they can be adopted and acted on as being established facts.

ELECTRO-PHYSIOLOGY.

By means of a series of experiments, a part of which were conducted on the human being, G. Fischer (*Deutsches Archiv. f. Klin. Medicin*) arrives at the conclusion that, while it is possible to influence the intra-cranial circulation by means of the electric current applied through the skin of the neck, yet the sympathetic is only responsible in a very slight degree for the change in the circulation, and that the so-called "galvanization of the sympathetic is a misnomer, and it would be more correct to call it galvanization of the neck. The alteration of the blood supply of the brain depends neither upon the direction of the current, nor upon its polar action, and is even more decided with the faradic current. In galvanization of the neck the centripetal vagus fibres are irritated as well as the sensory cutaneous nerves, so that the action on the brain is an indirect one, due chiefly to excitation of the fibers of the pneumogastric. The sympathetic ganglia are not irritable otherwise than the main cervical bundles of the sympathetic, and as regards the last, the author discovered nothing in his observations that would justify the opinion that the main cord of the sympathetic reacts like a motor nerve to the constant current.

Because the physiological action is found to be different than it had been supposed to be, and we would infer from the name, there is no reason why we should discard this valuable means for the treatment of certain diseases.

M. Onimus (*Comptis Rendus*) publishes the result of a series of experiments upon the effects of electrical stimulation of the pneumogastric and the so-called inhibitory nerves. He says that an ordinary faradic current is interrupted 30–35 times in a second, and that corresponds pretty well with the number of nervous shocks transmitted along special nerves, so that striped muscles usually respond well to the stimulus; but that

Digitized by Google

automatic and rhythmically acting organs require some numerical relation to be observed between their rhythm and the stimulus, or that the effect will be perturbation instead of increase of function. The author, as well as Charles Legros, found that if the pneumogastric nerve was stimulated by a current interrupted at long intervals, no arrest of the heart's action took place, and that for this latter result 16 to 18 shocks per second were required for warm-blooded animals.

From new experiments made by the author, he announces that by even and moderate stimulation of the heart at intervals corresponding somewhat to the existing cardiac rhythm, stronger contractions are produced, and that by this means the hearts of animals nearly poisoned by curare or chloroform can be re-awakened to functional activity. The peristaltic action of the intestines, which is arrested by the ordinary faradic current, was increased if the interruptions were somewhere about equal to the normal rhythm of 15 to 18 per minute; for this result to be obtained, it was found necessary that the intestines should not be empty.

The vaso-motor nerves he found to be similarly influenced; currents interrupted at long intervals producing no tonic contractions, but dilitation, with increase instead of lowering of the temperature. He concludes that the nerves of vegetative life and unstripped fiber, above all when they belong to organs which have rhythmic, co-ordinated and automatic movements, do not respond to artificial stimuli in the same way as spinal nerves. When the excitations become too numerous and too rapid they cease to provoke functional acts, and become causes of perturbations. The phenomena of arrest which have been obtained in these conditions are the results of these perturbations. Moreover, it seems from his experiments that the alleged depressor nerves come under the general laws of action of all the nerve-filaments, their physiological excitation provoking always the activity of the organs to which they are distributed.

M. M. Dastre and Morat (*Le Progres Medical*), in a note

Digitized by Google

on the effect of mechanical, chemical and electrical excitation of the pneumograstric, arrive at the following conclusion from their experiments, in regard to the action of electricity on the pneumogastric: "Very feeble galvanic currents, as well as a single discharge of induction, or the simple opening or closing of a strong galvanic current, cause an arrest of the heart's action." In closing, these gentlemen assert that the pneumogastric acts in only one way to excitants, no matter what their nature, intensity or rhythm. This action is always *arrest in diastole.*

The conclusions arrived at in these last two observations are diametrically opposed to each other, and we wait for further observations to clear up this subject. If M. Onimus is correct in his conclusions, we will have new and efficient modes of applying electricity in chloroform poisoning, constipation, and in those diseases which affect the organs of vegetative life, which organs can then be reached through proper electrical excitation of the nerves distributed to them.

M. Block (*Gaz. des Hopitaux*) submitted to the Soc. de Biologie certain experiments which he had performed to test the rapidity of the sensory nerve current in man. By these experiments he proved the dissimilar properties of tactile and electric sensation. He found that in receiving two shocks of electricity at the same point they will be fused, and there will be but a single sensation when the interval between shocks is but 1-31 second. When the points where shocks are received are removed from each other, to obtain fusion of the sensations it is necessary that the interval between shocks be lessened. The more distant the parts receiving the shocks are from each other, the less must be the interval between shocks to produce fusion. When, for instance, the two hands are operated on—one receiving one shock, the other the other shock—the synchronisms of the two sensations appear only at the 1-83 second. With mechanical shocks the distance of the parts at which they were received made little or no difference,

Digitized by Google

the 1-45 second being sufficient difference in time between shocks to produce fusion.

ELECTRO-SURGERY.

Although the following extract does not properly come under the head of electro-surgery, yet I think it will be apparent to all that this is the proper place for it.

HOW TO PREVENT HEMORRHAGE AFTER THE REMOVAL OF ESMARCH'S BANDAGE.

Dr. Riedinger (*Deutsche Zeitschrift fur Chirurgie*), after dwelling upon this great objection to Esmarch's bandage, and naming many of the surgeons who have seen the most profuse hemorrhages following operations in which this bandage has been used, states as his belief that hemorrhage is caused through paralysis of the vaso-motor nerves; further, that through the constriction, the blood being forced entirely from the part operated on, no coagulation of the blood takes place.

The author has performed experiments on animals to see whether the sensibility of the nerves was entirely overcome by the constriction of the bandage. The reaction upon applying electricity was quite apparent, and from this he was led to apply electricity to the nerves which supply the vessels of the part operated on. His results were so satisfactory that he recommends the application of electricity before the removal of the bandage. He uses the induced current. One electrode, enclosed in a sponge, is applied to the wounded part, while the other is passed over the nerve or nerves which distribute branches to the bandaged part. By this means he has succeeded in reducing the hemorrhage to a great extent.

ELECTROLYSIS OF OVARIAN TUMORS.

Dr. Emil Flies (New York *Medical Journal*, January, 1877,) gives the history of a case of ovarian tumor treated by galvano-puncture. He introduced the positive pole into the tumor through an exploring canula, while the negative was applied to the cutaneous surface in the neighborhood. At the

Digitized by Google

first operation, eighteen elements were used; these were gradually increased during subsequent operations until forty elements were used. The time that the electrolysis was continued varied from eight minutes at the first operation to thirty minutes, during which time the electrolysis was continued at the latter operations. The patient was subjected to this treatment for forty-one days, the operations being repeated every two or three days. During the last few treatments the galvano-puncture was alternated by passing the galvanic current transversely through the abdomen. After a treatment of this latter kind on the forty-first day she was taken with peritonitis, and died nine days later. At the time of the attack of peritonitis she had diminished very much in size. No post-mortem was permitted. The author was inclined to attribute the decrease in size to osmosis caused by the passage of the current, rather than to electrolysis.

Dr. E. Cutter (Chicago *Medical Journal and Examiner*, March, 1878,) reports a case of ovarian tumor successfully treated by means of his large battery, a description of which was given in my report—year ago. Dr. G. A. Pierce performed the operations. Cutter's large electrodes were used. Seven applications were made between August 18th and November 6th, 1877. During the first operation the current was continued for ten minutes, and at the last three, for half an hour. There was marked diminution of the fluid after each application, and on November 6th there was no more fluid in the sack. January 10th, 1878, there were no signs of filling of the tumor.

Dr. Frederick Semeleder (New York *Medical Journal*, March, 1877), gives the following as the result of his observation and experience in the treatment of ovarian tumors by means of electrolysis: There must be several cells connected together for intensity. These cells should be rather small in size. He advises the use of any battery which is capable of producing electro-chemical effects. The number of cells should depend on the electro-chemical power of the battery used. The author uses ten Callaud elements, which gives so slight a

Digitized by Google

current that when both poles are applied to the tongue no pain is felt. He prefers to use electrolysis only five minutes at each sitting. The treatment should be given every day, even during the menstrual period. He employs the uninsulated positive needle in the tumor, the negative pole being placed on the cutaneous surface in the neighborhood. He reports one case of death from peritonitis following the electrolytic treatment. The author has reported several cases of cure following this mode of treatment.

From the three extracts given above, we learn that each operator has his own peculiar mode of operating, and that all have relieved the most distressing symptoms of this disease, and in the great majority of cases have cured their patients. From them we also conclude that no one of these operators can claim his method to be the only one, or the one which is safest. We find one element in common in all of these cases—that of electrolysis, though each has a different method of accomplishing it.

From my own experience I would recommend as the best and safest, after having given the various methods proposed a fair trial, the use of insulated needles, both poles being introduced into the cyst, and a current of considerable electro-chemical power used, which should be continued for from fifteen to forty-five minutes. The time should depend upon the electro-chemical power of the battery and the condition of the patient.

ELECTROLYSIS IN STRICTURE.

Mr. T., aged 48, a native of the United States, engaged in the railway postal service, and who had served in the cavalry during the war, came to our office to consult us in regard to stricture of the urethra. Two years after his discharge from the army he noticed a diminution in the stream. As he had never had any venereal disease, nor had received any injury to the parts, the trouble was attributed to undue retention of urine when in the saddle. He had suffered from suppression of urine four times in two years. At these times he only

Digitized by Google

obtained relief after being placed under the influence of morphine and chloroform. He had been troubled with a constant dribbling of urine for seven years. This followed a severe inflammation of the bladder. The catheter or sound had never been passed before he applied for treatment, although seven physicians had made the attempt. One of these was a distinguished Eastern surgeon. On August 27, 1877, a number 12 (American scale) sound, insulated except at the point [this sound was exhibited to this Society two years ago], was engaged in the stricture, which was in the membraneous portion of the urethra. The sound was made the negative pole of a 30-cell Hill battery. The positive was enclosed in a sponge and applied to the inner side of the thigh. The current was allowed to pass for five minutes. This operation was repeated every other day, the sound advancing a short distance at each sitting. At the fourth operation the sound entered the bladder, after the current had been applied for ten minutes. There was less pain attending these operations than the patient had frequently experienced during any one of the many attempts at catheterization. *Only a few drops of blood* followed the removal of the sound at the last operation, the other operations being bloodless. The patient experienced no trouble whatever from the operations, and was even partially relieved of the constant dribbling before the stricture was dilated. After dilitation—if electrolysis can be termed dilitation—he was so much relieved of this troublesome symptom that he was able to dispense with the urinal, which had been a constant annoyance to him. He was instructed in the use of a sound, which he has been using occasionally since.

RADICAL CURE OF RETENTION OF URINE FROM ENLARGED PROSTATE.

E. Bottini (*Centralbl. f. Med.* 1877,) advises that the prostate be either divided or the entire gland be burned away in cases of retention of urine due to enlargement of the gland Neither the cauterization nor the cutting causes much pain,

Digitized by Google

so that anæsthetics are rarely necessary. The bladder, which is partially filled at the time of operation, should be evacuated shortly afterwards, though strangury is ordinarily experienced. No bad effects are observed; even vesical catarrh has never been noted. Cauterization is usually advisable in partial and not prominent enlargements both of the supra-collicular portion and the lobes of the prostrate. Division is to be recommended in general and uniform enlargement of the gland, and also in every prominent intremescences. Among the contra-indications are: (1) inactivity of the detrusor; (2) abnormal condition of the urine; (3) coincident renal disease.

ELECTRO-THERAPEUTICS.—DIFFERENTIAL INDICATIONS FOR THE USE OF THE FARADIC AND GALVANIC CURRENTS.

Dr. A. D. Rockwell (New York *Medical Journal*) discusses the indications which are to guide us in the use of these two electrical currents. Asthenopia, a symptom depending upon the absolute or relative deficiency of energy in the muscles of accommodation, or of the internal recti, and accompanied by hyperæsthesia of the retina and of the ciliary nerves, is about the only disease in which faradization is invariably superior to galvanization. The galvanic current is uniformly superior to the faradic in spinal irritation, certain sequelæ of cerebro-spinal meningitis, and in most of the skin affections in which electricity has been found of service. In paralysis, an exalted or even a very slightly diminished electromuscular contractility demands faradization, but a great diminution of this contractility indicates galvanization. When used for the relief of pain, proper discrimination is difficult. True neuralgia is most successfully treated by galvanism, while hysterical neuralgia yields more readily to faradism. General faradization is highly recommended as a constitutional tonic.

INJURIOUS EFFECTS FROM ELECTRICAL TREATMENT.

Dr. D. F. Lincoln (Boston *Med. and Surg. Journal*, Oct. 22,) calls attention to the effects that are sometimes produced

Digitized by Google

by electrical treatment in aggravating certain symptoms and producing new ones, indicating an occasional injurious action. This injurious effect he attributes to "over stimulation; that is, exhaustion of the spinal, or ganglionic systems;" the action of electricity being generally stimulant to the nervous system. He gives several cases in which injury followed electrical treatment.

THE FARADIC TREATMENT OF UTERINE FIBROIDS.

Dr. J. T. Everett (*Am. Jour. of Obstetrics*, Jan. 1878,) reports nine cases of uterine fibroids treated by the faradic current. From a view of these and other cases he presents the following conclusions:

1. The faradic current, if judiciously used, is equally potent to produce uterine contractions as the preparations of ergot.
2. It is more easily controlled, can be begun or discontinued at a moment's notice, and the dose can thus be more judiciously apportioned.
3. It never disturbs nutrition or the secretions, and does not interfere with digestion.
4. It never produces pain in distant organs; is followed by no cephalic disturbance or nervous shock.
5. It never produces inflammations or other local injury.

It will be remembered that in a former report before this Society I made mention of several of the above facts, and strongly advocated the use of the faradic current in uterine fibroids.

A CASE OF TUBO-INTERSTITIAL PREGNANCY TREATED BY THE GALVANIC CURRENT.

Dr. Chas. McBurney reports (New York *Med. Journal*, March, 1878,) a case of tubo-interstitial pregnancy in which the interrupted galvanic current was used to destroy the life of the fœtus. Drs. Thomas and Emmet saw the case in consultation with Dr. McBurney, and each concurred in the above diagnosis, which, by subsequent events and examination after

Digitized by Google

recovery, was proved to be correct. Dr. A. D. Rockwell was called in to use the galvanic current. The battery plates consisted of zinc and carbon. The negative electrode was applied over the tumor; this electrode being introduced into the rectum, the positive was applied on the abdomen, over tumor. The current from seventeen cells was used, and interrupted 120 times per minute. The following day twenty-three cells were used, and the current reversed during the treatment, as well as interrupted. The duration of the treatments were respectively three and two minutes. The morning after the second treatment the fœtus was expelled. The patient recovered without any untoward symptom.

SPRAGUE'S GALVANOMETER ARRANGED FOR THERAPEUTIC USES.

A REPORT BY DAVID PRINCE, M. D., JACKSONVILLE, ILL.

It is evident that it must be a satisfaction, as well as a means of the scientific study of electricity as a therapeutic agent, to be able to measure with accuracy the amount or strength of the agent employed.

An agriculturist could estimate the amount of his grain by the number of acres, and an electrician the amount of his electric force by the number of cells in action. One measure would be about as accurate as the other. The force depends not only upon the kind of cells employed, but upon their working order.

A measure of the force produced is not only useful in determining what the patient is getting, but also as showing the condition of the battery.

The sensible effect of a battery upon a patient is a coarse way of measurement. Such is the difference in the sensibility of different persons, and of the same persons at different times, and consequently of the operator himself at different times, that the accurate measurement of a good galvanometer

Digitized by Google

is often a surprise to one who is familiar with the employment of galvanism without having accurately measured it.

As an illustration of the subject: There appeared in the Boston *Medical and Surgical Journal* for June 29th, 1876, an able paper by Dr. Hutchinson, of Providence, in which he claimed to prove that when two needles were introduced into a piece of beef so that their points should be one inch apart, no current could be made to pass from the point of one needle to that of the other when a single cell was employed, no matter what the size of the cell. The proof that no current passed through an inch of beef was, that the needle of the galvanometer did not show any deflection.

The article of Dr. Hutchinson appeared soon after the publication in the same journal of a paper by Dr. Ephraim Cutter, describing a large single cell zinc-carbon battery which Dr. Cutter had employed in the electrolysis of uterine fibroids by the introduction of needles, *i. e.*, by galvano-puncture. Dr. Cutter's battery is run by the electrofusion of the acidulated solution of bichromate of potash, which affords great activity, and consequently greater power of overcoming resistance than a slow-acting single-cell battery.

Dr. Hutchinson's conclusion with regard to Dr. Cutter's practice was that no current passed between the points of the needles, or in case of the introduction of the negative needle only, no current passed between the needle and the positive electrode upon the surface of the body. This conclusion was based upon the experiment with the needles inserted into a chunk of beef, with a current furnished by a single-cell battery.

The writer has made the same experiment of inserting the needles into a mass of beef so that their points were an inch apart, and employing a one-celled battery, with the result of a quiet measurement of the indicator along the scale on the dial. There can, therefore, be no doubt of the passage of a galvanic current in the practice as described by Dr. Cutter. The proceeding is, therefore, not a simple acupuncture. The galvano-

Digitized by Google

meter employed by the writer was that which is about to be described.

The circumstance here related points out one of the conditions of a good galvanometer for therapeutic uses. The delicacy should be as great as can be obtained by the use of a pivot needle. A fiber suspension (as in Thompson's reflector employed with the Atlantic cable) is unnecessarily delicate for any therapeutic uses. For physiological observations, however, great delicacy is indispensable.

2d. It is desirable to measure the quantity or amount of current of a single celled battery with a short circuit of metal affording very little resistance, as in batteries employed for cauterizing purposes.

3d. It is desirable to have the measures of current from a series of cells in alternation, affording tension in order to overcome the resistance of the animal tissues, one to measure the feeble current from a short series of cells, as twenty or less of slow-acting zinc-copper constant-current cells, and a measure for a stronger current from a series from twenty to 250. The necessity is the same as for gradation in the measure of gravity. The small weight is too small to balance great bodies, and the large is destitute of the sensitiveness necessary for the indication of minute masses. If, instead of having several galvanometers, these necessities are met by a single instrument, the greater or the less power being brought into the circuit by moving a switch, a desideratum is attained.

J. T. Sprague, Esq., of Birmingham, Eng., has constructed a galvanometer in which the readings upon the dial are direct, *i. e.*, without the necessity for mathematical calculations. Five sets of coils of wire are combined in one instrument, with switches so that the coil of one turn of wire can be used for the measurement of a great quantity; that of ten turns of wire for a quantity of current of less volume. A coil of one hundred turns of wire is employed for the measurement of a current of tension with considerable resistance, *i. e.*, a number of

Digitized by Google

cells arranged in series, with a resistance not so great as to prevent the passage of a considerable quantity of current. A coil of one thousand turns of wire is employed for the measurement of the current of a large number of cells passing through a great resistance, as through the length of the human body, or through the extremities from hand to hand. A coil of five thousand turns of wire is employed for measuring the feeble currents from one cell, or a small number of cells passing through portions of flesh or other substances affording great resistance.

The unit of measurement on the dial of this galvanometer is the veber, which is one-hundredth of the absolute unit of the British Association, or the grams metre, second unit. This is a force which will carry one gram in weight one metre in distance in one second of time. The volt, one hundred thousand, is divided by the ohm, ten millions, giving the veber, .01. The figures upon the dial are in vebers. It is easy to translate the veber unit into any other measurement for any scientific purpose.

The following is Sprague's table of terms and measurements:

Electromotive force and tension in gram. meter, second units, the volt,	100,000 units
Static quality, the farad	.01 "
Resistance, the ohm,	10,000,000 "
Quantity or current; the veber	.01 "

The electromotive force, or the force of the battery, undiminished by resistance or work of which the volt in the unit (containing one hundred thousand g. m. s. units), is divided by the resistance of which the ohm is the unit (containing ten million g. m. s. units), and the quotient is the veber, the decimal fraction, .01.

This is the result of the application of Ohm's law. The observer on looking at the position of the needle sees it stand over a figure which indicates in vebers the force which is passing at the time. For greater detail the dial is divided into four parts, and each quadrant has a distinct system of figuring.

The reader of the dial has thus a measurement of the cur-

Digitized by Google

rent which is passing at the time of the observation in terms which have a relation not only to the indications of the same instrument at other times, but to a unit which is invariable and universally recognized.

The use of this galvanometer has been a source of great satisfaction to the writer, and it is therefore recommeded for general introduction.

Mr. Sprague is not a manufacturer, but an inventor and an amateur mechanic and electrician. My instrument was made in great part by his own hands. The cost in Birmingham was £7; duties, $14.70; all other expenses, $8.

OPHTHALMOLOGY AS RELATED TO GENERAL MEDICINE.

BY E. L. HOLMES, M. D.

The best text books on ophthalmology, especially in German, English and French, as compared with those on other branches of medicine and surgery, possess a very high degree of merit.

The relative difficulties which confront the student in the study of these different works, may, I think, be stated somewhat as follows:

A fair knowledge of ophthalmic and of general medical science may be acquired by any one of moderate capacity, who commences study with an elementary knowledge of Latin and Greek and of physics.

Unfortunately, too many medical students not only possess meager knowledge of these branches but, to use a common expression, "do not know certainly what little they do know."

Commencing on the low plane of mental discipline which I have just mentioned, the diligent student may, nevertheless, pursue his studies with no special difficulty in ophthalmology, till he enters upon the study of the ophthalmoscope and of refraction and accommodation. Here the difficulties for nearly all medical students are very great.

Digitized by Google

It may be said in truth, I think, that good general surgeons are liable to fail in ophthalmic surgery, not so much from want of special delicacy in the use of their fingers, as from want of practice with fine instruments and the lack of judgment founded on frequent review of fundamental principles.

Good physicians also, for similar reason, often fail to diagnosticate and to treat properly common diseases of the eye.

I may, without danger of making odious comparisons between the general practitioner and the oculist, call attention to several points wherein the former is liable to injure patients by not comprehending a few principles *well.*

Consider for a moment the subject of glaucoma. While many physicians still utterly fail to recognize glaucoma, many more than formerly observe cases of the disease at eye clinics, and thus learn to comprehend this condition of the eye when they meet it. They are aware that the eye is glaucomatous when suddenly or slowly there appears an abnormal hardness of the globe, with an enlarged pupil, pain and persistent colored rings around an artificial light at night. They are aware also that an operation, usually iridictomy, is most generally advised.

Still, intelligent physicians often advise patients suffering from the terrible pains of acute glaucoma, to undergo a course of internal treatment before seeking relief by an operation.

Every physician should be able to detect an increase of hardness of the globe, and should urge, without delay, the appropriate operation when it is a marked symptom.

Iritis is a disease which every physician should recognize in its early stages. Yet we find the *application* of knowledge often at fault.

Typical cases are easily diagnosticated. There is frequently a failure to make a positive and early diagnosis by neglecting to demonstrate the irregularity and immobility of the pupil after the instillation of a drop or two of solution of atropine upon the conjunctiva. Many eyes are partially and some totally lost in consequence of this omission.

The chapter on sympathetic ophthalmitis is of so very great

Digitized by Google

practical importance to the general practitioner that it should never be neglected by him. We should constantly impress upon his mind the few great principles which govern the action of the enlightened surgeon in the management of certain injuries of the globe. These principles in general are simple and readily understood.

The difficulty lies in the fact that the practitioners are too often in blank ignorance of these principles. They may have listened to a statement of the facts presented in a lecture or two, but ever after fail to study and review the subject. The consequence is, hundreds of patients with an injury of one eye become totally blind from sympathetic inflammation of the other eye, when perfect vision of the uninjured eye might have been saved.

I have frequently alluded to this subject before this Association. Its importance, and the fact that it has in recent times called forth numerous and earnest papers from many of the most celebrated writers in ophthalmic science in every portion of the world, is sufficient apology for again briefly occupying the time of the society.

Another subject of very great importance has occupied the attention of the most celebrated ophthalmologists for years. The general results of these observations, as expressed in simple language, should be deeply impressed on the mind of the general practitioner. I refer to ophthalmic hygiene. The subject in its relation to the adaptation of glasses is very difficult for most students and practitioners to master. It requires long study and ample experience to overcome these difficulties. And yet physicians, educated in a few fundamental principles alone, are capable of doing very great good in their fields of labor.

It should be known that, while patients with uncomplicated myopia and presbyopia *may* select their own spectacles without danger, in very many instances they may do great harm. As a rule, it is safe to state that whenever ordinary work with the eyes, assisted or not by spectacles, causes discomfort, great care and skill is often requisite in selecting the proper lenses.

Digitized by Google

No physician should be ignorant of the fact that a high degree of myopia, especially if progressive, may endanger vision by careless usage.

Certain facts regarding myopia should in no wise be confined to a specialty.

A physician to whom is entrusted the care of a family's health should always be able and ready to give good advice regarding the necessity of having the family sewing and reading room well lighted by day, and in the evening well supplied with artificial light. Shaded rooms and those lighted with dull lamps or duller candles are no places for those using their eyes on close work. Children should be taught to avoid studying too far from the source of light in any room. Both excessively strong lights and cross lights should be avoided, as also too fine or indistinct print. The habit of bending the face too much forward while reading should never be encouraged.

Physicians in every town and village should interest themselves in the structure and lighting of school houses, in the form of desks, and should advise teachers to have all possible regard for the welfare of the children under their care, in reference to the use and abuse of their eyes.

Every physician should possess the skill to use the ophthalmoscope intelligibly in the examination of the anterior structures of the eyes.

The condition of the pupillary edge of the iris, of the lens and the anterior portion of the vitreous, can be quite readily determined by a little practice with the instrument.

In this way the physician can settle authoritatively many questions regarding the conditions of an eye which he could not otherwise comprehend.

On the other hand, an intelligent examination of the choroid, retina and optic nerve, and of refraction by means of the ophthalmoscope, requires such long and patient training that very few physicians in general practice can ever hope to overcome the difficulties.

Digitized by Google

Fortunately the cases are comparatively few in which the practitioner can gain much assistance from the ophthalmoscope regarding a patient's general health. In the vast majority of cases the instrument reveals simply the condition of the fundus of the globe, and nothing definite beyond it.

It is true that not unfrequently, after an examination of the eye, the examiner almost intuitively inquires whether the patient is suffering from Bright's disease, diabetes, syphilis, tumor in the brain, or whether he is under the chronic influence of alcohol or tobacco. In nearly all these cases, however, the careful physician is able to discover the presence of these diseases before an ophthalmoscopic examination is made. A great mass of supposed facts have been accumulated by distinguished neurologists which are believed by some to prove that the condition of the vascular supply of the brain may be determined by ophthalmoscopic examinations of the retina and optic nerve disc. But these observations have not yet, I think, been satisfactorily analyzed to enable us to form an accurate diagnosis of the cerebral tissues by such examinations.

I think there can be no dissent from the proposition that the study of ophthalmology as a specialty should be commenced only after the study of medicine has been pursued at least three years.

And yet every physician upon whom those afflicted with diseases of the eye are absolutely dependent for aid, should study and review year after year some of the fundamental principles of ophthalmology.

A few facts regarding some of the most important diseases should be stated as apothegms, and forever fixed in the memory.

All this touches very closely upon the whole question of medical education. If a student has faithfully studied and learned the few principles alone in ophthalmology which I have enumerated, he will have required more time than students usually can devote to this branch. If he has pursued each of the other branches of medicine in the same careful but may be superficial way, trusting to the future for the perfec-

Digitized by Google

tion of his education, he has a task which every medical student should perform, and yet which the average medical student in America can not perform in the three years of his course.

It is much better that studies should be systematized than that they should be pursued without system. And yet with the very best of systematic arrangement, very few students can prepare themselves for the proper practice of their profession in three years.

I believe public opinion will compel the leading medical schools of this country to elevate the standard necessary for graduation. I am thoroughly convinced, however, that no real advance will be made before the schools insist upon *four full* years of study, each year being divided into two regular terms of at least four and a half months each.

An equivalent to this change would be, perhaps, the requirement that no student should be admitted to a medical college as a matriculate who had not at least received as complete an education as can be obtained in a good English high-school, and has not studied quite thoroughly chemistry and the use of the microscope, with microscopic anatomy.

I believe the profession, public opinion, and the medical colleges themselves will gradually effect a change for the better in the results of medical teaching. I believe, however, that custom, the manner in which American laws are enacted and enforced, the habit in this country of endeavoring to do things rapidly, if not thoroughly, the plan on which our medical colleges are founded and supported as compared with European medical colleges, or even with our own literary institutions, will render any absolute radical reform exceedingly slow.

CASES BY DR. W. T. MONTGOMERY.

FIBROMA OF THE LOBE OF EAR.

Mrs. Clara B., 28 years of age, native of Germany, housewife, was first seen by me at the Central Free Dispensary of

Digitized by Google

West Chicago, about one year ago. She gave the following history: Her parents were both living and healthy, except her mother has a very large swelling of the neck. Patient has never had any serious sickness.

When 12 years old, patient had her ears pierced and began to wear small ear-rings. She continued to wear them for a number of years without any trouble, but they were left off, and the holes closed up. She was married at 23, and soon after this her husband bought her a large, heavy pair of ear-rings (probably brass), when she had her ears pierced a second time and began to wear the new rings. Her ears became very sore, and continued sore until about three years ago, when the trouble for which she consults us began to appear.

On examination, patient is apparently well nourished, and is nursing her third child, 10 months old. Find quite a large bronchocele, which, she says, began to grow soon after the birth of her first child. In the lobe of each ear we found a hard nodulated tumor, the one in the right as large as the largest chestnut, and the one in the left the size of a small filbert. We advised removal of the tumors, but the patient said she was afraid, and that was the last we saw of her until April 10th of this year, when she returned and wished to have the tumors removed.

We now find right tumor nearly as large as an English walnut, and left as large as a medium-sized filbert. The patient says the right is painful at times, but this was probably more of a soreness from the weight of the tumor.

April 16—The patient was etherized, and the tumors were removed by making V shaped incisions with strong scissors. Free hemmorrhage followed the cuts, two or three small arteries spirting freely and requiring torsion to control them. After the bleeding had ceased the edges of the wounds were drawn together by means of sutures, and cold water drsssings applied.

April 22.—Sutures removed. Wounds have healed by first intention.

Digitized by Google

MICROSCOPY.

Thin sections of the tumors removed by Dr. Montgomery showed the characteristics of fully developed connective tissue of that variety characterized by the abundance of intercellular fibres, and occurring so familiarly in cicatrices and tendons. The mass of the tumors consisted of bundles of fibrils closely interwoven, and interrupted here and there by single or grouped spindle-cells and occasional masses of germinal matter. Embedded in this tissue were numerous hair follicles, with their accessory sebaceous glands. In the periphery of the growth was a considerable quantity of adipose tissue. The superficial layer was elevated at intervals with papillæ. Blood vessels were few and small. The tumor was, in short, a simple hyperplasia of the skin, or, technically, a fibroma—a growth entirely benignant, whose return is very improbable.

WM. T. BELFIELD, M. D.

Tumors of this description of the lobe of the ear are of rare occurrence in the white race, but are said to be of not very rare occurrence among the negroes of this country and among the blacks of the East and West Indies.

So far as I know, the causes are always the same as are evident in this case—the irritation set up by that relict of barbarism, the custom of piercing the ears and wearing ear-rings. As in this case, too, the trouble is usually met with among the lower classes, who wear heavy brass rings.

Whether or not that condition which favors hypertrophy of the thyroid gland predisposes to the formation of these tumors is a question suggested by the presence of bronchocele in this case, but which I am unable to answer.

IRIDO-CHORORDITIS, PROBABLY SYMPATHETIC.

Miss Katy M., Irish, 25 years of age, seamstress, was admitted into Cook County Hospital, February 20, 1878.

Patient states that when she was about 10 years old she began to have trouble with her left eye. The eye was very painful, and continued to trouble her more or less for three or four years, when the sight was entirely lost, and it ceased to trouble her. Six years ago the eye had become so shrunken that she began to wear an artificial eye, and has worn one ever since.

Eight years ago patient had a sore upon the privates, fol-

Digitized by Google

lowed by enlargement of the inguinal glands on either side. Six or eight weeks subsequently she had sore throat, which was pronounced diphtheria. She had at this time considerable fever. Soon after this she lost her hair.

Four years ago she began to be troubled with pains in the legs and arms—worse at night. These pains have continued to trouble her at times ever since.

Two weeks since, on rising in the morning she found that the sight of her right eye was dim. The eye was blood-shot, but she did not have any pain. Several domestic remedies were used, but the eye gradually grew worse. On examination, patient is anemic and thin in flesh, but her appetite is good; bowels and menses regular. Right eye, slight circumcorneal injection; pupil moderately contracted. The area of the pupil is occupied by plastic lymph and pigmentary exudation; iris smooth and muddy in appearance; anterior chamber very shallow; eye tension slightly increased (T. 1). Vision —counts fingers at the distance of two feet. Is wearing artificial eye on stump of left eye, and that is not examined at this time.

Treatment.—Atropiæ sulph., gr. iv., ad aquæ distil. ℥ i., to be dropped into the eye five times daily, and the eye to be protected from the light. Internally, hydrarg. bichlor. gr. 1-32, potass. iodide gr. v., three times daily. Also, cod liver oil, ℥ ss. t. d.

March 2.—The circumcorneal injection has disappeared, the pupil is widely and regularly dilated, and the exudation has partially disappeared. The patient has kept her bed up to this time; she is now permitted to go about the ward, wearing a shade. Treatment otherwise continued.

March 5.—Patient began to have slight pain in the eye during last night, and this morning we find a recurrence of all the inflammatory symptoms. The patient is in bed, and has not introduced her artificial eye. Our attention is directed to the inflamed, chemosed condition of the stump, which is about one-fourth the size of the other eye, and does not pre-

Digitized by Google

sent any trace of cornea. Patient is directed to leave off the artificial eye entirely. Treatment continued as before.

March 10.—The inflammatory symptoms of right eye have entirely disappeared. There still remain patches of pigment on the capsule of the lens. Vision—reads large print. Continue treatment.

April 8.—There has been no recurrence of inflammation, but the patient is anxious to wear her artificial eye again, and as the stump remains tender, excision is advised. The patient readily assented, and being etherized, the conjunctiva was divided around the old cicatrix and the stump was removed. But little hemorrhage followed. Cold water dressings were applied.

April 12.—No pain or unfavorable symptoms followed the operation. The wound healed without suppuration. Specific treatment and atropine omitted.

May 10.—Eye remains well. Vision—reads newspaper.

In the choroid of the stump was found a hard body, about one-third of an inch long, one-fifth wide, and one-eighth thick.

MICROSCOPY.—A section of the mass showed true osseous structure, Haversian canals, lacunæ and canaliculi, with amorphous intercellular substance. [Microscopy by Dr. Wm. T. Belfield.]

Ossification of the choroid is not unfrequently found in the examination of eneucleated eyes, and it is claimed that the presence of this bony formation may excite sympathetic inflammation without any external irritation. The points of interest, then, in this case relate to the causes of the inflammation. We have here a case of inflammation of the iris and choroid in a patient with a clear syphilitic history. As syphilis is by far the most frequent cause of inflammations of these structures, it was but reasonable to conclude that syphilis was the cause in this case, and to direct treatment accordingly. The rapid subsidence of the inflammation under specific treatment only added strength to this view. But another point was, the patient being in bed, and having her eyes bandaged, did not

Digitized by Google

wear her artificial eye. As soon as she was permitted to go without the bandage, she began to wear her eye again. Very soon the inflammation recurred with increased violence, and this time we first noticed the inflamed and tender condition of the stump, and our suspicions were that the wearing of the artificial eye upon this stump was the cause of the trouble in the other eye—that it was a case of sympathetic irido-chororditis. The subsequent removal of the bony formation went to confirm this view.

DISEASES OF THE THROAT AND NASAL PASSAGES.

By J. P. MATTHEWS, M. D., Carlinville, Ill.

Mr. President, Ladies and Gentlemen of the Illinois State Medical Society:

A report upon this subject, coming under the domain of one of the many specialties in medicine, could, perhaps, be made more interesting and reliable had it been written by one who had made a special study of the diseases incidental to the naso-pharyngeal cavity.

It is often stated in our hearing, and doubtless with a goodly degree of truth, that "catarrh is on the increase." The more thorough drainage of our Prairie State, with the resulting meteoric changes, have dispelled the old-fashioned shakes that were wont in former days (within, too, the recollection of those of us who do not consider ourselves old,) to shake the primitive abodes from attic to floor, and these unpleasant pastimes are no longer endured by the Sucker.

Twenty or thirty years ago the armamentarium of the country physician (and it seemed all that was needed for a visiting tour) was a bottle of quinine, an effective purgative, and some form of opium. This routine is changed. The malarial poison seems modified in form, or has become less intense. All sorts of troubles are met, and among them none that are not immediately dangerous are more disagreeable to the patient,

Digitized by Google

or afford less satisfaction to the general practitioner who has not made it a careful study, than the diseases which form the subject of this report.

Since the laryngoscope and rhinoscope, invented or perhaps perfected by Czermak, are so readily obtained and easily manipulated, a proper appreciation of diseased conditions of the throat and nose is made obligatory upon every general practitioner. True, in large cities it becomes an easy matter to turn over to the specialist any cases he does not choose to treat; but in a small city the size of the one in which it is my lot to reside, the community expects and demands, almost omniscience of that human being termed the family physician.

"Gargle your throat with a little chlorate of potash," or "use salt and water in a nasal douche," are impromptus that are "passing away;" the former not a good local application, and the latter doing harm if not properly used. But you are compelled to seek for something better, from the fact that it has not only been used in every chronic case presented, but it has been recommended by every wise old lady in the community.

Chronic catarrh usually originates in taking cold, causing a catarrhal inflammation of the lining mucous membrane of the air passages. It occasionally occurs in an epidemic form, called influenza; and Ziemssen says "It may and does occur in early childhood from vaginal secretion of the mother during birth, just as does conjunctivitis neonatorum." The acute forms, from whatever cause, become chronic from neglect, causing children from an early age to be possessed with excessive irritation of, and secretion from the nasal mucous membrane. Children illy-fed and poorly-clad are the subjects of this complaint, and it not infrequently occurs among the well-fed and fashionably-dressed, whose muffs and furs are only occasionally worn, while in the open air.

Otitis media and catarrhal ophthalmia frequently result from an extension of the inflammatory process, up the eustachian tube and nasal duct.

Neglected chronic catarrh, occurring in the young, is un-

Digitized by Google

doubtedly the cause of the intractable and frequently almost irremediable chronic follicular pharyngitis seen in the adult. In these cases, too, is found enlargement of the tonsils, so permanent that nothing short of a cicatrix from a partial excision will give the relief desired.

While the chronic form of pharyngitis and rhinitis is frequently tolerated for a long time, the oft-repeated acute attacks that result therefrom cause the patients to seek for medical aid. The feeling of lassitude, aching, and general constitutional purturbation are fruitful causes for alarm. The nerves and groups of nerves belonging to these regions, which become involved in the inflammation, have an exceedingly important influence upon the general system, so that when constitutional disturbances of this character occur in connection with naso-pharyngeal inflammation, a full share of attention should be directed to these parts, as being factors in the production of such symptoms.

"The nose," Fraenkel says, "is the classical name for catarrh. The name catarrh, from the Greek katarreo, to flow down, which has remained attached to the whole family of diseases which we designate as such, originated in the idea which the ancients had with regard to that secretion especially which escapes from the nose. Hippocrates, as well as Galen, believed that the secretion of the nose, and to some degree also that of the larynx and pharynx, flowed down out of the brain. These matters flowing away were considered a sort of cerebral purge, and it was believed the pituitary gland, as well as the sphenoid bone, indicated the path by which these excretions of the brain reached the nose. Professor Schneider, whose name, under the appellation of Schneiderian membrane, still perpetuates, in A. D. 1660 first proved the supposition false."

"The old view," he also says, "of the cerebral origin, which Schneider at great labor annihilated in his learned work, and which a physician now only hears of when he studies the history of medicine, has still perpetuated itself to the present

Digitized by Google

day in the various popular expressions and beliefs. Among these may be mentioned the French name for coriza, "Rheume de cerveau,' the supposed efficacy of hellebore and other stimulators in brightening the understanding, and the beautiful custom of wishing a hearty good health to him who by a vigorous sneeze has embraced the shortest way of clearing up his brain."

When diseased condition of the Schneiderian membrane exists, in either acute or chronic form, it usually extends to the pharynx, causing what is termed naso-pharyngeal disease; but when only behind the soft palate, it is termed retro-nasal catarrh. When the larynx also is involved, the term naso-pharyngo-laryngeal is chosen to express what in common English would be meant by inflammation of throat and nasal passages.

Acute rhinitis, coryza, or cold in the head, depending upon atmospheric influences, geographical position, or peculiarities of race as a cause—in comparison with the frequency of its occurrence—mostly terminates in recovery, and does not end in a chronic affection. Recurrences of acute catarrh, if often repeated, prolonged respiration of an atmosphere filled with irritating particles, or uninterrupted influence of unfavorable atmospheric conditions, such as excessive cold and moisture, are some of the conditions that favor the chronic form of this complaint. Persons with nervous organisms, rendered extremely susceptible to atmospheric changes by derangements of some important organ or organs of the system, as the liver, lungs, or kidneys, are subjects frequently of the most intractable forms of chronic catarrh.

Fraenkel describes two forms of chronic catarrh in the nose, the hyperplastic and the atrophic. In the former the mucous membrane appears thickened and livid, while in the latter it is thin, often pale, apparently consisting of connective tissue and blood vessels alone, with but little of the appearance of normal mucous membrane. The secretions vary much as to quantity and quality in these forms, but are mostly of a puru-

Digitized by Google

lent character. In a portion of the cases we meet sufficient mucus is secreted to wash away or cleanse the parts, especially while in the open air, if the temperature is low. In others the secretions become thick, dry, and form crusts. These crusts are sometimes large enough to cover a turbinated bone. They often occur, too, round in form, having accumulated in an abnormally cup-shaped curve in one of the bones having shape to favor its formation. Without this accident, disease in these cases would probably not exist. These crusts, by decomposition, become offensive, producing the condition which, having been chronic coryza or rhinitis, is called ozæna, from the Greek—to stink. Some authors think this term should only be used when caries of the bones occur. Fraenkel thinks the term should be applied to all cases of offensive breath, whether from decomposing nasal secretions occurring in chronic rhinitis, caries, or ulceration. Dr. Cohen says "ozæna is a term used to designate any chronic discharge of a fœtid character from the nasal passages," and claims that the term is merely denotive of a characteristic symptom.

There is no doubt in my mind but that these are forms having a common cause, differing in their stages only in degree, except when scrofula or syphilis occurs as a complication. Pharyngitis and laryngitis are frequently extensions of inflammation occurring in the nasal passages. The pain that is supposed by patients to proceed wholly from the pharynx, in sore throat, during diglutition, is mostly reflected from behind the soft palate, a result of retro-nasal inflammation.

In considering the therapeutics of these complaints, we will speak for a moment of the modes of applying remedies locally.

During a visit, two years ago, to the Metropolitan Throat Hospital and the department for throat diseases in the Manhattan Eye and Ear Infirmary, in New York, I found the same kinds of instruments, and, to some extent, the same formulas that we read are used in the McKenzie's institution in London. They use the gargle, inhalers for the application of vapors, warm and cold, the swab, brush, probang, powder insufflators, the application of solid substances, and nasal douche.

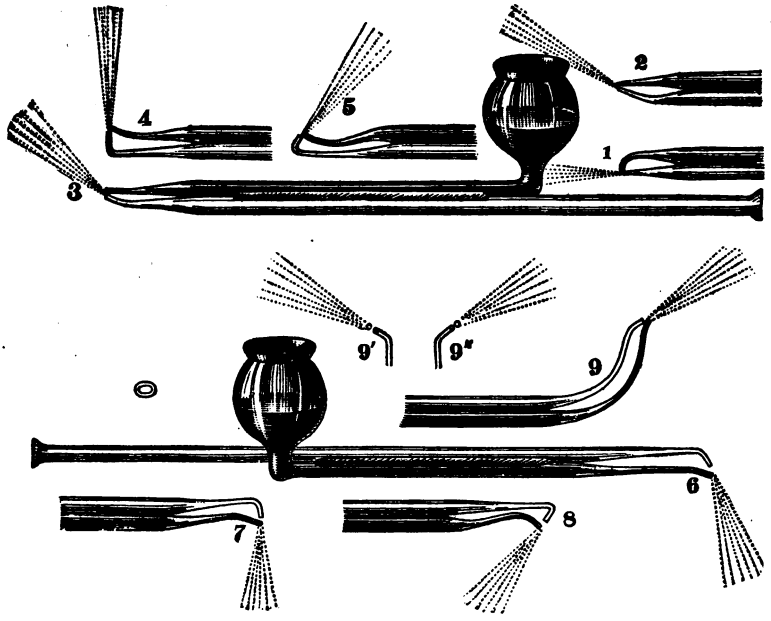
Digitized by Google

To what extent the nasal douche is now used in those places I cannot say, since the recent warm discussion as to its merits and demerits that has occurred between Drs. Roosa and Elsberg, the latter defending the douche, while the former contends that from the number of cases of otitis media observed by him that were undoubtedly produced by the use of this instrument, its use should be, to say the least, abridged. In a pamphlet reprinted from the archives of ophthalmology and otology, Dr. Roosa gives an analysis of sixteen cases of disease of the ear produced by its use, and says: "These cases seem to prove that even when the douche is used with care, by competent persons, it is a dangerous appliance." Fraenkel, in Ziemssen's Cyclopædia, advocates its use by saying: "If during the application of the douche the nostril, which should be left free, is closed, and the patient makes efforts at swallowing, there is no doubt but that fluid will enter the tubes. But the occurrence is easily avoided in patients by having them leave their nostrils free, abstaining from all efforts while swallowing, and breathing calmly, with the mouth wide open."

For the busy country practitioner, who is obliged to do something for patients he can but seldom see, we are inclined to the belief that it is an instrument of some utility, that when cautiously used will benefit but seldom cure any of the chronic forms of nasal or naso-pharyngeal disease. When used, only very weak solutions of salt in water, carbolized water, or permanganate of potash should be prescribed. To the other modes of applying remedies to these parts little attention will be paid, except the use of the spray, which, in my judgement possessed advantages over all others.

Of spray producers several kinds are used—Richardson's, Newman's and Wintriche's—but the one perfected by Dr. Rumbold, of St. Louis, possesses advantages not only superior to all, but seems all that can be desired for the purposes for which it is used. They are not patented, and can be procured at trifling cost from A. M. Leslie & Co., or from Aloe & Hernstein, surgical instrument makers, St. Louis, Mo. They

Digitized by Google



are made, as will be seen, to direct the spray in different ways, straight or obliquely upwards or downwards, and will cleanse the parts with watery solutions as warm as is required, or apply medicated unguents with equal perfection.

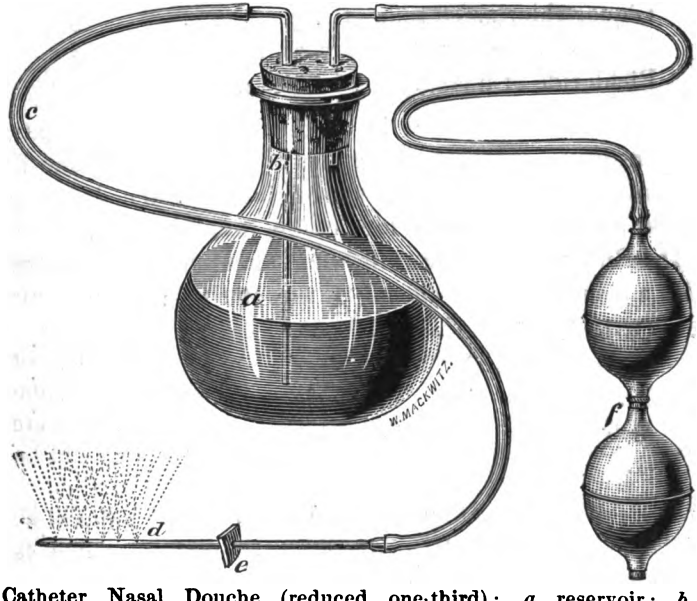
The cups, made to withstand heat sufficient to boil water, or so melt an ointment that it can be sprayed, are the advantageous points that makes it preferred to all others, for in acute or chronic conditions it is essential that all remedies should be applied warm.

The spray is produced by means of India rubber bulbs similar to what is used in Richardson's apparatus, or, what is much easier manufactured, and can be made at trifling cost by any tinner, is an air receiver made of galvanized sheet iron. The one I have for use in my office is made torpedo-shaped, strengthened by a piece of gas-pipe which traverses it, and soldered air-tight at either end. The pipe is perforated by several holes, through which the receiver is filled. One end

Digitized by Google

is attached to a force pump by a rubber hose, by which it is filled, and the other end attached to the instruments to be used. A cut off, used by the hand or so constructed as to be used by the foot, completes the apparatus. If made of ten to twenty gallons capacity, it will suffice for several patients during the day.

It is thought by many unaccustomed to the use of these spray producers that Nos. 4 and 5, with which the spray is thrown behind the soft palate, would with great difficulty be used; but experience has taught that no such difficulty is found in any case, after a few applications. Nor is there any difficulty in throwing the spray with Nos. 7 and 8 into the larynx or trachea.



Catheter Nasal Douche (reduced one-third); *a*, reservoir; *b*, metal tube for the passage of the fluid, having a small aperature in its side for the entrance of air; *c*. rubber tube; *d*, foramina for escape of coarse spray; *e*, catheter; *f*, India rubber air bulbs, used to force air in the bottle.

In the forms of ozæna with caries the catheter nasal douche, also perfected by Dr. Rumbold, is an instrument of considera-

Digitized by Google

ble usefulness, which can be easily made by any one from a little rubber tubing, a quinine bottle, a couple of glass tubes bent in a spirit lamp, and a small rubber catheter; the catheter perforated by drilling small holes as seen in the cut.

The medicaments used in these complaints with the spray producers are the same used by those who prefer the nasal douche and gargle, and are classed as resolvents and alteratives. Of the former we name chloride of sodium, muriate of ammonia, bicarbonate of soda, and bromide of potassium, used in solution of from grs. i. to xv, to water ℥ i.; of the latter—

Carbolic acid gr. 3-5 to v. - - -	to water	℥ i.;
Iodide of potassium gr. i. to xv. - -	"	℥ i.
Lugol's solution, gtts. i. to x. - - -	"	℥ i.
Liquor chlorinated soda gtts. ij. to xxv.	"	℥ i.
Permanganate of potassa grs. ss. to v. -	"	℥ i.
Bichloride of mercury gr. 1-20 to j. - -	"	℥ i.

The mercury only used in syphilitic cases. Fluid extract of pinus canadensis, Pond's extract of Hammamelis, and fluid extract of Golden Seal, in weak solutions, sweetened with glycerine, are remedies found serviceable in many cases.

Dr. Rumbold uses the following, after cleansing the parts with a solution of salt about ʒ i. to water Oj.:

Carbolic acid - - - - - -	gtts. xij.
Glycerine (pure) - - - - - -	℥ iss.
Fl. extract of pinus canadensis - - -	ʒ i.
Warm water - - - - - - -	℥ viss.

Mix.

It is sprayed either in the nasal cavity or larynx, the latter bearing a little stronger prescription of the principal ingredients.

Cosmoline or vaseline, a product of crude pretroleum, melted in the spray cup over a lamp and sprayed in either the throat or nose, has proved the very best of remedies.

In cases of offensive breath, the addition of salicylic acid gr. ¼ to ½ to vaseline ℥ i., is a favorite prescription. The acid

Digitized by Google

should be well rubbed with a small portion of vaseline, and the rest mixed while melted to a liquid state, and shaken occasionally while cooling.

In chronic follicular pharyngitis, tincture of guaiacum used with the spray does well. Dr. Cohen uses very strong solutions, ʒ ss. to ʒ i. to water ℥ i., and if it does not succeed he slits each enlarged follicle and presses between the edges of the wound a piece of the solid stick. I have found the latter of some service. I use it by inserting a piece of wire into nitrate of silver while melted, causing an accumulation the size of a No. 8 shot on the end of the wire, which is more readily inserted than in any other way. After its use vaseline is sprayed upon the parts thus treated.

RESTORATION OF THE MEMBRANA TYMPANI.

BY S. O. RICHEY, M. D.,
ASSISTANT AURAL-SURGEON TO THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY, CHICAGO.

In commenting upon chronic suppuration of the middle ear, under the head of prognosis Dr. D. B. St. John Roosa says: "The membrana tympani has a regenerative power second to no other membrane of the body. I have repeatedly seen it restored after all but a narrow rim had been entirely swept away. When the membrana tympani is entirely removed, and one or more of the ossicula lost, the prognosis is grave."

It was stated by Dr. Turnbull, in 1872, that "If more than half the membrane be destroyed, it rarely heals." Mr. Dalby, of London, in 1873, said: "To how great an extent large losses of substance in the tympanic membrane may, under favorable circumstances, be replaced by new tissue, seems uncertain; at any rate, to the extent of *half* the membrane."

According to the observation of the writer, the cases in which the perforation can not be healed are rare, if proper regard be had for cleanliness, and the patient is persistent in his efforts. I have moreover observed that in case of a large per-

Digitized by Google

foration of the membrane, the membranic tissue is more rapidly renewed at first than after the perforation has become so small as to render it difficult for the surgeon to make local applications to the middle ear. This stage of the process is the most trying to the surgeon and the patient, for when the perforation has become small and the discharge has ceased, the vital activity of the parts may have so much diminished as to again require stimulation. This excitation, though slight, may be rendered so severe by some unexpected circumstance, as exposure to cold and dampness, as to renew the suppuration, which in turn keeps open the small perforation. This is one of the conditions which make the treatment tedious.

A perforation originally small is often not easily healed for the same reasons. Mr. Dalby has found "that a perforation of large or moderate size receives greater benefit from treatment than a very small one."

If we bear in mind that the middle ear is the part diseased, and that from it the vitality of the membrana is for the most part derived, it is a reasonable conclusion that the tympanum should be the part stimulated, and not the membrana tympani itself. When, therefore, the perforation is large, it seems rational treatment to give an impetus to the reparative action in the membrane before the new tissue interferes with the applications to the middle ear.

In these cases, nitrate of silver appears to be the best stimulant that can be used upon the diseased surface, and the first application of it should be very thorough. This will usually give considerable pain for several hours, and the excitement of the parts should not be allowed to get beyond control. Its subsequent use rarely gives much annoyance, as it seems to change the nature of the surface to which it is applied. The severity of the application should be governed by the previous duration of the affection, being stronger the greater the length of time the suppuration has lasted.

In regard to the method of using nitrate of silver, it is neither necessary nor justifiable to give into the hands of a patient a solution of it to be instilled into the ear, as staining of

Digitized by Google

the face and clothes is an almost certain result. It is one of the applications which should be made by the surgeon himself, and even then, with usual care, the auricle and the outer portion of the meatus will at times become blackened. It may be used in any strength, from ten grains to an ounce of water to a saturated solution (ʒ i. to f.–℥ i.), as the case may require, and should be applied by means of a cotton holder. In this manner the application can be made to any part to the exclusion of other parts. Where the membrane of the drum had all sloughed away, in the cases observed by me, the process of reparation began in the upper and anterior segment, and extended downwards and backwards, the last of unrenewed tissue being in the post-inferior quadrant.

The patient should wash the ear frequently with warm water and a syringe; but this will not always remove the pus from the interior surface of the membrana tympani. This object can best be accomplished by means of a warm alkaline solution, forced through the eustachian catheter into the middle ear. This farther assists the purpose of keeping open the eustachian tube, for in many of these cases the non-suppurative form of inflammation has preceded the suppuration, and if, under these circumstances, the membrane is entirely restored while the eustachian tube remains diminished or closed tinnitus and oppression at once result. This method has the advantage over forcing water from the external meatus through the tympanum and the eustachian tube, in that there is not the same danger to the internal ear or the brain; it does not produce a like faintness and dizziness, nor does it wash the pus from the middle ear into the throat. It forces the pus into the external meatus, whence it may be removed by the surgeon. In the case of an irritable child, for whom the catheter can be used only at disadvantage, if at all, the progress of repair is usually more protracted than in one whose middle ear is easily cleansed in this manner, thus proving the advantage of the procedure. In any event, a healthy state of the tympanum is a requisite to a satisfactory result, for though the suppuration may have ceased, and the perforation may be

Digitized by Google

closed, yet if the tympanic mucous membrane continues irritable, a very slight exciting influence may at any time cause a return of the previous condition.

Dr. Roosa reports a case similar to those recorded below, in which the membrana tympani and the ossicula auditus had sloughed away. The left membrane was restored, with marked improvement in hearing, in the space of ten months. The patient was young, and the inflammation was recent.

Appended are the histories of two out of five cases of restoration of the membrana tympani. In one of the five cases there was necrosis and removal of the cochlea of the left side,* three of those referred to having lost but one membrane.

Case 1.—Feb'y 1st, 1877, Henry Blass, aged 51 years, claimed that he had been afflicted with purulent discharge from both ears for twenty years, and that during the whole time his hearing had been no better than I found it to be upon examination. The watch could not be heard when pressed upon either ear. Words spoken slowly and distinctly, and in a raised voice, could scarcely be comprehended. The vibrations of the tuning-fork were heard when it was placed upon the vertex, or upon either mastoid process. Each external meatus contained a quantity of green pus, the removal of which by syringing the ear exposed a raw and ulcerated surface in the tympanum of the right side. Enlarged blood vessels could be seen passing over the promontory of the left middle ear, which contained numerous polypoid granulations. The membrana tympani were both destroyed, nothing remaining except the annulus tendinosus. A small knuckle of bone, the short process of the incus, clung to the upper and auterior portion of the tympanum. The malleus was gone. Cleansing the ears and inflating them with air did not improve the hearing. Frequent syringing and an astringent lotion were prescribed.

He complained at subsequent visits that syringing his ears gave much pain. Nitrate of silver was used topically.

*Reported in the Chicago *Medical Journal and Examiner* for April, 1878.

Digitized by Google

By June 28, 1877, the suppuration had ceased in the left middle ear, and the membrane of the drum of this side was entire. The right membrane did not at the time show any disposition to follow the course of its fellow, and there was still suppuration from the right middle ear. H. D. R. E.—$\frac{0}{\text{watch, 12 ft.}}$; H. D. L. E.—$\frac{2\text{ inch.}}{\text{watch, 12 ft.}}$.

September 15, 1877, suppuration from the right middle ear had stopped, and the right membrana tympani was restored, except a small perforation, such as could be made by a pin, in the post-inferior quadrant. H. D. R. E.—$\frac{2\text{ inch.}}{\text{watch, 12 ft.}}$; L. E.—$\frac{10\text{ inch.}}{\text{watch, 12 ft.}}$. The right membrane occupies nearly the normal position of the membrana tympani, though unsupported by the manubrium mallei. The left membrane is attached to the annulus tendinosus anteriorly; posteriorly, it adheres to the inner wall of the tympanum. The annulus may be seen external to the new membrane posteriorly. The left membrane reflects from a spot in its post-inferior quadrant. The patient has had tinnitus aurium in the left ear since the restoration of the membrane, which was relieved by the treatment usual in the non-suppurative form of inflammation of this organ.

Case 2.—Henry Foesch, of Chicago, aged 21 years, was first seen Nov. 6, 1877, and then stated that when 18 months old he had measles, followed by suppuration of both ears, which continued for sixteen years. Three years ago he "had another attack of inflammation, which pained so much that he did not sleep for two weeks."

An examination showed about the same structural condition as in the former case. Both membranæ tympani had been destroyed, leaving only the annulus tendinosus; the malleus was absent from each ear, and the other ossicles seemed bound to the roof of the tympanum by adhesions. The tympanic blood-vessels were very large, and the posterior and inferior part of the inner wall of the left middle ear was covered with granulations. The patient had no pain in either

Digitized by Google

ear. He could hear the sound of the voice readily, but could not distinguish words without an effort. H. D. R. E.—$\frac{4 \text{ inch.}}{\text{watch, 12 ft.}}$; L. E.—$\frac{C.}{\text{watch, 12 ft.}}$

FIG. 1.—The inside white ring, the annulus tendinosus. The process of the incus, and the cartilaginous socket of the malleus head in front and above; the black space was occupied by the membrane which is lost.

December 20th, about six weeks later, the membranes were nearly restored, the perforations being very small, and situated in the post-inferior quadrants of the new membranes, which were convex externally, the convexity increasing towards the perforation.

Fig. 2 represents the appearance of both membranes at that time.

Fig. 2.

Two weeks later he had acute inflammation of the right middle ear, with suppuration, which enlarged the perforation of the right membrane, which then appeared as in Fig. 3. The left membrane had more vitality, and the perforation then very small, but gradually increasing.

Fig. 3.

Jan. 10, 1878, there was very little discharge from the right middle ear, and the perforation of the right membrane resembled that seen in Fig. 4. The left membrane was entire. H. D. R. E.—$\frac{6 \text{ inch.}}{\text{watch, 12 ft.}}$; L. E.—$\frac{10 \text{ inch.}}{\text{watch, 12 ft.}}$.

Fig. 4.

March 21st: H. D. R. E.—$\frac{25 \text{ inch.}}{\text{watch, 12 ft.}}$; L. E.—$\frac{34 \text{ inch.}}{\text{watch, 12 ft.}}$

April 30th: H. D. R. E.—$\frac{34 \text{ inch.}}{\text{watch, 12 ft.}}$; L. E.—$\frac{44 \text{ inch.}}{\text{watch, 12 ft.}}$.

The eustachian tubes were free; there was no tinnitus, no suppuration from either ear, and his hearing was sufficient for ordinary purposes, conversation in the usual tone being readily heard and understood.

Though the progress in the first case was essentially the same, yet it was not so rapid as in this one. This fact may be attributed to the difference in the ages of the two patients, as the inflammation had existed for a like time in each, and the structural changes were virtually the same. In each case

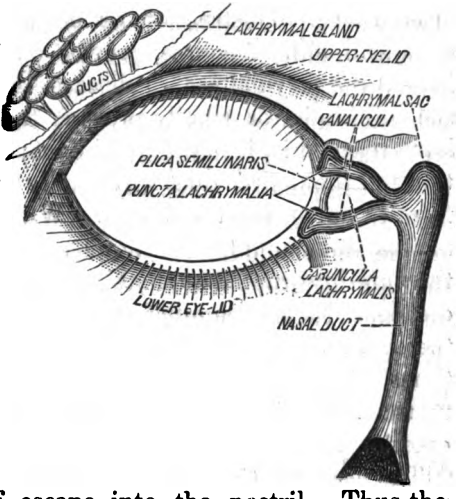
Digitized by Google

the left membrana tympani grew more rapidly than the right, and the hearing distance is proportionately greater in the left ear.

AFFECTIONS OF THE LACHRYMAL APPARATUS.

BY S. J. JONES, A. M., M, D.,
PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY IN CHICAGO MEDICAL COLLEGE.

Disorders of the lachrymal apparatus, involving one or more of its parts, are both frequent and annoying, and the results of treatment are often unsatisfactory.



These disorders may originate either in functional or organic changes, and may occur in any part of the apparatus, from the lachrymal gland and lachrymal ducts to the nasal opening of the nasal duct. One of the most frequent and annoying results is stillicidium lachrymarum, an accumulation of tears at some point between their secretion by the glands, and their usual place of escape into the nostril. Thus the function of the tears, to lubricate the eye and to wash foreign substances out of it, may be interfered with, and, instead of benefiting, their flow may injure.

This result may be dependent upon one or more influences. A frequent impediment to the natural flow of tears is inflammation of the conjunctiva, with attendant thickening. This may produce eversion of the lids and prevent the tears from entering the puncta, and also lead to escape of tears over the lower lid.

Again, the lachrymal caruncle, instead or directing the tears,

Digitized by Google

into the puncta lachrymalia, may be so changed in shape as to impede their entrance into them.

Eversion of the lids and with them the puncta, from any cause, will interfere with the entrance of tears into the natural channel for their escape. Displacement of the lower lids by pressure of spring spectacle-frames, sometimes causes temporary interference with the natural flow of tears. In addition to being everted, the puncta may also become diminished in size by injury, atrophy, or disease, and add another to the causes which prevent passage of the tears into the canaliculi, as may also relaxation in advanced life, or paralysis of the orbicularis muscle. Obstruction or occlusion of any part of the canaliculi will, of course, prevent onward movement of tears into the lachrymal sac, or disease—acute or chronic—of the sac will hinder or wholly prevent the passage of tears, that have reached it, into the nasal duct; and stricture or obliteration of the nasal duct will wholly or partially prevent tears from escaping into the nostril. Whilst the tears secreted are natural in amount, and they have performed their function, they are interrupted at some point in their natural channel of escape, so as to accumulate and interfere with the refraction of the eye. Afterwards, they overflow the lower lids, and sometimes produce excoriation of the cheek, just as occurs in any unusual increase of their secretion, as by irritation or by the emotions.

The accumulation of tears is at first only an inconvenience, interfering at times with the refraction of the eye, and moistening, thus dimming, spectacle glasses when worn, and also subjecting the person to the necessity of frequent wiping of the so-called "weeping eye."

This may continue for an indefinite period, without much increase, but sooner or later acute inflammation is likely to occur, either in the lachrymal sac, or nasal duct, or in both. This becomes a more serious matter, and its gravity has to be estimated by various circumstances.

Where acute inflammation of the sac occurs, it is attended with great pain, swelling and redness, presenting an appear-

Digitized by Google

ance which often is mistaken for an attack of erysipelas, but with which it should never be confounded, for the seat of the inflammation should lead to a suspicion as to its nature, and besides, the redness does not continue to spread as in erysipelas. The lids are greatly swollen, and there is usually considerable constitutional disturbance. Unless this inflammation is controlled it runs on to suppuration, and opens externally, leaving generally a lachrymal fistula, and other evil results. In less violent inflammation there is only muco-purulent accumulation, which causes distention of the sac (mucocele), presenting an unsightly tumor that may be relieved for a time by pressing out the contents—downwards into the nostril, or upwards through the canaliculi and puncta—but it soon refills. This portion, which is designed to carry off the tears after they have performed their function, is the one most frequently affected, and at no period of life is one free from this danger. The lachrymal gland, the secreting organ, may be the seat of injury or of several affections, as acute or chronic inflammation, or of malignant disease, but it is not often involved. It may, however, be affected to such an extent as to necessitate the removal of the gland.

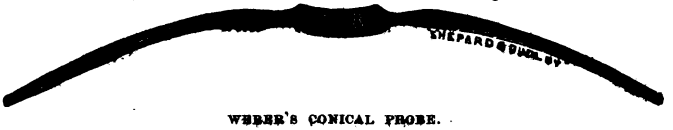
The treatment of these troubles must be as varied as the causes are numerous.

As in other cases, after examination has shown exactly the existing condition, the rational course to pursue is to determine, as far as practicable, the cause which produced this, its consequence, and to ascertain if the cause is still acting and adding to the trouble, that it may be removed; or, if it is no longer acting, and only the consequence remains to be dealt with.

If entrance to the puncta is prevented by the results of swelling from inflammation of the conjunctiva or of the meibomian glands, proper treatment for such inflammation may be the only requisite to secure relief. As eversion of the lids, and with them the puncta, is often a consequence of such inflammation, this additional cause of obstruction will disappear with the removal of the inflammation.

Digitized by Google

If the caruncle be swollen or hypertrophied, and thus it becomes a hindrance, the local use of stimulants and astringents will generally prove sufficient. If there has been ulceration, involving the puncta which has cicatrized and closed the passages, an artificial opening into the passage must be made, the same as if it had resulted from traumatic causes. Where atrophy diminishes the calibre of the puncta, stretching



WEBER'S CONICAL PROBE.

the orifices by means of a conical probe passed through into the canaliculi will usually suffice. The small vesicle which results from closure of the openings from the meibomian glands irritates the eyeball and increases the flow of tears, simulating obstruction to the escape of tears. Where the impediment is to an outward movement of tears that have entered the canaliculi, it is frequently a more difficult matter to determine exactly the situation of such obstruction. Where the tears and mucus accumulate in the lachrymal sac, and produce distension of it, mucocele, it is a reasonable inference that the hindrance is at some point inferior to the lachrymal sac, and this can sometimes be verified by pressing the secretion upwards, and causing its escape through the puncta; but such emptying can not always be effected upwards, whilst at times it can be by pressing it downwards into the nose. The most difficult cases in which to obtain relief are usually those of stricture in the nasal duct.

In former times, under the belief that obstruction to the downward passage of tears was owing, in nearly all cases, to obstruction of the nasal duct, it was the custom to make an artificial opening from the outside into the lachrymal sac, and to pass in a stile—through an opening made into the sac—down into the nose, to be worn for an indefinite time, the head of the stile resting upon the skin of the cheek on the outside of the artificial opening.

This was quite generally found to be not only unsightly,

Digitized by Google

ineffectual, and annoying—because the obstruction was situated above—but dangerous to the integrity of the parts, producing ulceration and, in some cases, caries.

The entire lachrymal gland has been removed to prevent secretion of tears, the mucous secretion being disregarded. Again, obliteration of the lachrymal sac was advised and practiced, but on seemingly less rational grounds. About the year 1857, Bowman, of London, proposed a procedure for the relief of these cases that, with some modifications, has been almost universally adopted as giving more satisfactory results than any of the modes that had preceded it.

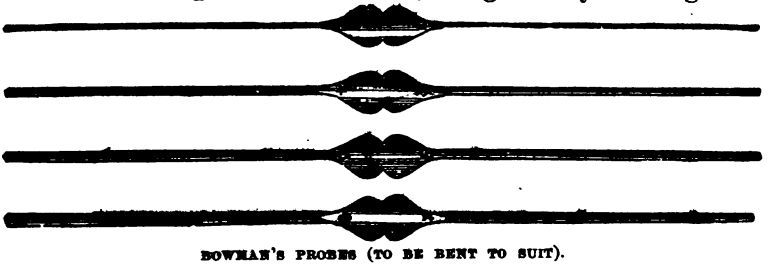
His plan is to make an incision in one canaliculus, or in both of them, from the punctum to the point of union of the two canaliculi before they open into the sac. This may be

E. H. SARGENT.

CANALICULUS KNIFE.

done by a small knife, designed especially for that purpose, or by a pair of delicate scissors. Re-union of the cut edges can easily be prevented.

Probes of eight different sizes, for gradually dilating the

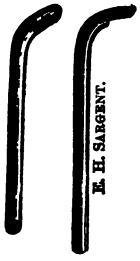


BOWMAN'S PROBES (TO BE BENT TO SUIT).

contracted part, are then to be used, as large a size as can pass through the stricture being introduced at intervals, varying from one to several days. The probe is first passed along the incised canaliculus in a horizontal position, until it reaches the point of union of the two canaliculi. Here obstruction may be met with, either from organic stricture, or from spasmodic contraction. Continued pressure upon it with the probe will usually, after a few moments, cause the probe to

Digitized by Google

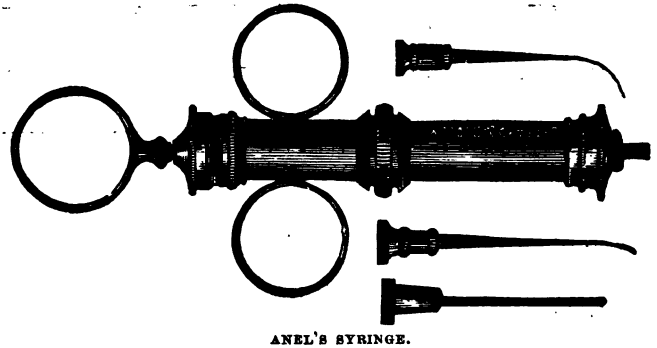
pass into the sac. As soon as this shall have occurred, the probe is to be turned into a vertical position and gradually pressed downwards and slightly backwards, when, in most cases, it will pass into the nose. When in position, the probe should be allowed to remain from a few moments to a couple of hours, according to circumstances. Often, one or more points of resistance will be found in passing in. Sometimes a stricture is so firm as to require that it be incised with a suitable knife before a probe can pass through it. Occasionally there is an ulcerated point, which bleeds freely whenever the duct is probed. When such is the case, it is better to pass into the duct a hollow stile, as I believe was first proposed by Dr. E. Williams, which should be shaped to suit each case and be allowed to remain in if no pain, or other unexpected trouble arise, until the ulcerated point shall have healed. This stile rests on a mucous membrane instead of on the skin and its presence is therefore much better tolerated, so that it may be worn for months.



HOLLOW STILE.

If there be much secretion, this may be syringed out with an astringent solution, even whilst the stile is retained.

The results of treatment are in many cases unsatisfactory.


ANEL'S SYRINGE.

Even at a very recent date, so eminent an authority as Brudenell Carpenter has advised that the obstruction be let alone,

Digitized by Google

using only palliative treatment, such as forcing mild collyria into the nasal duct, with Anel's syringe, except when there is acute inflammation, which is likely to result in suppuration.

But where the annoyance is so great as to require almost constant use of a handkerchief, when exposed to a low temperature of atmosphere, or to high winds, the sufferer usually desires to have some effort made with a view to gain some relief.

No method of treatment that has yet been devised seems to give so much benefit in general as what is known as Bowman's method, viz: of slitting the canaliculus and probing the nasal duct, as occasion may require in each case. This may be supplemented by wearing a curved hollow stile, whose beak will rest in the mucous lining of the canaliculus—out of sight—and by an astringent collyrium for its effect upon the inflamed mucous membrane, even while the stile is being worn.

ON A NEW MODIFICATION OF THE ANTERIOR SPLINT.

BY ROSWELL PARK, A. M., M. D.

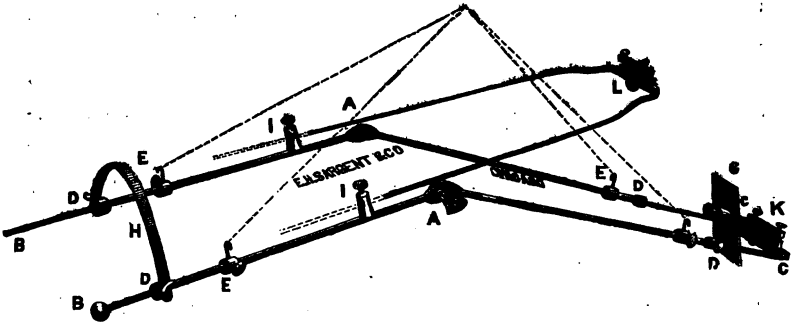
DEMONSTRATOR OF ANATOMY, WOMAN'S MEDICAL COLLEGE; SURGEON TO THE SOUTH SIDE DISPENSARY.

There are a few surgeons of ability and experience who persist in being obtuse to the merits of Nathan R. Smith's "anterior splint," or its modification by Prof. Hodgen. To such the writer can hardly hope to present any acceptable form of the same. But he ventures to hope that to the balance of the profession the splint described below will commend itself. The simplicity of the Hodgen splint has always been regarded as strongly in its favor; it could be made by any smith, and was comparatively light and portable. I will not extend the limits of this paper by expatiating on its valuable points. Nevertheless, experience with it suggested a few improvements. When properly applied, the ankle could be moved pretty freely, and stiffening of the joint was thus

Digitized by Google

avoided, while the patient was gratified accordingly. But not so with the knee-joint; its position was almost as unalterable as when confined in wood or plaster dressings.

To meet this and other objections I devised, and Messrs. Sargent & Co., of this city, constructed for me, the following modified form:



A D, A D, are tubes, with joints and thumb-screws at A, A. Telescoping into them are rods B D and C D, easily set at any point by thumb-screws D, D, etc. A flexible, yet sufficiently stiff band, H, separates and firmly holds the upper extremities; by using a short or long band, and adjusting the screws in the slots made for them, the distance of the rods can be varied from four to nine or more inches. The lower rods, C D, are bent at right-angle at C, and fastened together by a clamp at K, so that they can also be adjusted at any distance apart from two and a half to five inches.

By such means, every feature of the splint can be regulated to fit any size or length of limb to which such apparatus is appro riate.

For points of suspension, sliding thimbles E, E, with thumb-screws and carrying-hooks, are provided. The end of one rod at B is knobbed, to prevent the bandages slipping off in the perinæum, while it is intended the other rod shall extend up to the crest of the ilium on the outside. The rods are interchangeable. To this extent it is simply an adjustable style of the good old anterior splint.

Digitized by Google

To facilitate extension, the following method, original as far as I know in such application as this, is employed:

At G is a thin wooden block, around which the adhesive plaster strips coming down the leg are fastened as usual. To this, through a perforation and by aid of a cork stopper, or by other suitable means, a piece of rubber tubing is attached, the other end of which passes between two bars of the clamp K, and may thus be firmly held at any desired point. Too much can hardly be said in favor of this elastic extension; it is found to overcome the tension of the muscular fibre more easily and quickly than any other method. Its general adoption, where possible, in orthopædic apparatus, is sufficient evidence of this.

But it will be at once seen that when the splint is bent at any considerable angle, there would be a tendency to curvature of the femur at the weak point, supposing the fracture to be in that bone, while the foot and leg are being thus pulled upon. To obviate this, an addition was made. At I, I are two standards, firmly fastened, through which pass rods, as seen in the engraving; these are bent and fastened by the clamp L, similar to that at K, and are capable of being adjusted to suit the position of the other parts of the splint. Their function will be comprehended at a glance. When the knee is bent at an angle of more than twenty degrees, say, it simply requires two extra pieces of adhesive plaster on the thigh, to leave the limb at the knee, and, running out, be attached as they would be at the foot to the wooden piece G, while the rubber for elastic extension is transferred from the clamp K to the clamp L. In this way the position of the limb can be changed as often as comfort requires, while the site of the lesion and the adaptation of the fragments are undisturbed, and the extension is made in the direct line of the femur. Such changes, however, would hardly be justified until after the formation and strengthening of the callus—perhaps ten days.

The suspending cords run up to a knot, as seen by the dot-

Digitized by Google

ted lines; and, finally, the proper extension is made by suspending by a single cord from the ceiling the whole in such a way as to tend to draw away the splint from the patient, while yet his limb is fastened firmly to it.

The writer, therefore, claims for his apparatus the following advantages:

1. Portability; it can be taken apart and made up in a package the size of a roll of music.

2. Adaptability; it can be fitted as described to any size of limb, or to a patient of any age above mere childhood.

3. Applicability to almost any fracture between hip and ankle, except that of patella. Thus one splint is suitable for almost any fracture of the lower extremity in almost any patient.

4. The benefit of the principle of elastic extension.

5. It allows the position of the joints and soft parts to be changed often enough to avoid stiffening.

6. For convenience in dressing compound fractures, it meets every requirement. The bandages in which the limb is swung can be changed as often as required, while the parts are exposed for the inspection of the attendant with a minimum of trouble, whenever desirable.

The writer thinks that these advantages more than offset what some might be inclined to consider the expensive or complicated character of the apparatus.

THE PRESENT STATE OF OTOLOGY.

REPORT OF S. J. JONES, A. M., M. D.

PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY, CHICAGO MEDICAL COLLEGE.

Medicine and surgery have profited by division of labor in science and the arts. Otology, the once neglected field, has been benefited by such division in a marked degree.

Scarcely a score of years has yet passed since all, except the coarser, anatomy of the ear was comparatively unknown;

Digitized by Google

its diseases were scarcely understood, and what treatment of them there was proved most unsatisfactory to both patient and physician.

To-day finds this changed, and whilst much yet remains to be learned of the pathology and therapeutics of this important organ, it may truly be said that much has been accomplished.

A more general recognition of the practical value of the anatomical divisions of the ear—the external, the middle and the internal—with the distinguishing characteristics of each, and their influence in disease, has aided in elucidating much that was in doubt.

The study of the minute anatomy of the different parts of the ear has served to better understand both its physiology and pathology, and guides more surely in its therapeutics and surgery.

The physiological division into the conducting and perceptive apparatus has shown how important it is to distinguish between affections of each, both for treatment and prognosis.

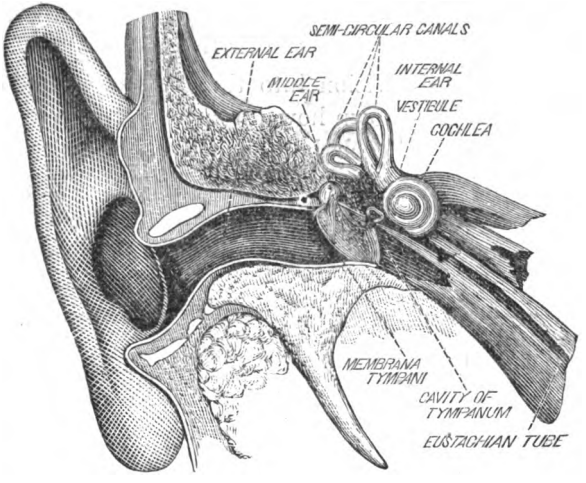
Prior to the time of the issue of the work of Sir William Wilde on aural surgery (1853), scarcely a book worthy of this subject had appeared. Therefore, otology, as now understood, may properly date from that time. That work did much to establish aural therapeutics and surgery on a better basis. It was soon followed by Toynbee's work on the ear, that will stand as a monument to his memory for patient research into the anatomy—normal and pathological—which revealed by post mortem examination such changes in the middle and internal ear as had scarcely been suspected. What he so well began his co-laborer Hinton developed still further, and rendered more useful, but to neither of whom was life spared to complete the labor each had allotted himself.

This field of investigation now enlisted other laborers outside of Great Britain. The diligent work of the Germans still further elucidated the histology and physiology of the different parts of the ear, so that the names of Politzer, Gruber, Troeltsch and others, will be inseparably connected with the history of otology.

Digitized by Google

America, too, has added her quota to the list of names of those who have successfully worked to give otology a worthy place in surgery, that it might no longer be regarded as among the approbria of our profession. The literature of otology, both American and foreign, is now abundant, intelligible, and reliable. That so great progress has been made in so short a period of time is doubtless due in part to the fact that the subject had in prior times received so little attention from the more competent men of the medical profession.

The results now attained compensate measurably for the long neglect, since this department of medicine at present holds an acknowledged position, both at home and abroad.



The function of the external ear, as is known, is to receive and conduct waves of sound to the membrana tympani, but these may be materially influenced by the conditions of the external meatus, as well as of the auricle. The middle ear, however, plays the most important part in conducting the sound to the auditory nerve. In its structure it has not inaptly been compared to the musical instrument the drum, being a cavity surrounded by both firm and yielding walls, the tensor and laxator tympani muscles regulating the degree of tension

Digitized by Google

of the drum head, as do the cords on the sides of the ordinary drum, influencing the frequency of vibrating, and probably producing the accommodations of the ear, whilst the eustachian tube corresponds to the vent-hole in the side of a drum, and permits entrance and exit of the air to the cavity of the middle ear as occasion may require. The mechanism of the ossicles in the middle ear has been very thoroughly investigated by Professor Helmholtz, who has demonstrated their value in sound conducting.

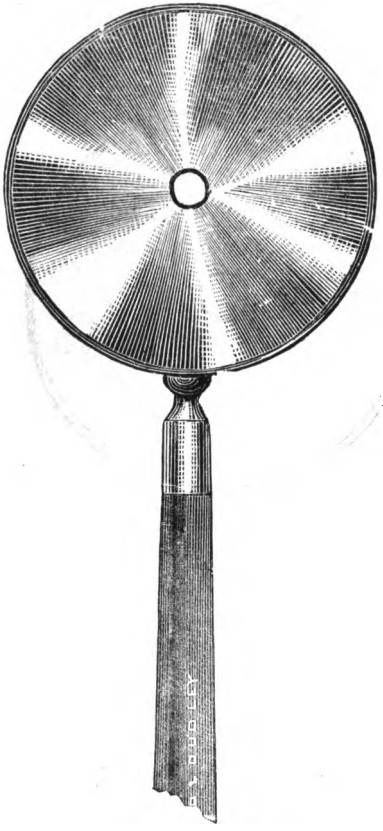
The complicated structure of the middle ear, which communicates by means of the eustachian tube with the naso-pharyngeal space, and is lined by a continuation of the mucous membrane of that space (which in the middle ear becomes almost inseparably connected with the periosteum, and which, also, lines the mastoid cells), explains why this part of the ear is by far the most frequently affected. Its position not only makes it participate in the suffering of both the external and internal ear, and often of the pharynx, but its proximity to the brain makes its diseases dangerous to the nerve centre, and hence to life. The firm union of its mucous lining to the periosteum is a reason why catarrhal inflammation of that cavity can be periostitis as well, with its attendant pain and interference with nutrition of that part.

It is accepted that the most important part in hearing is performed by the vestibule; that in the cochlea, where are the fibres of Corti, musical sounds are mainly recognized, whilst the semi-circular canals preside over the equilibrium of the body, and may assist in regulating pressure within the labyrinth.

Notwithstanding the delicacy of structure of the internal ear, so appropriately called the labyrinth, disease of that part of the ear is of very infrequent occurrence, contrary to what was once believed; yet Virchow states that morbid growths occur on the auditory nerve more frequently than on any other cerebral nerve.

Digitized by Google

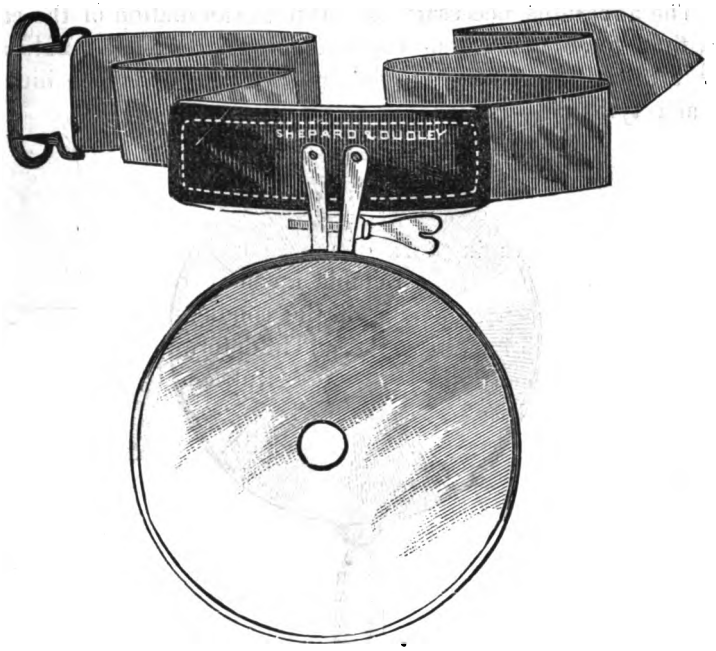
The apparatus necessary for proper examination of the ear is, first, some instrument for conducting strong light, natural or artificial, into the external meatus and upon the membrana tympani.



CONCAVE MIRROR, WITH HANDLE.

This can be done by any bright reflecting surface, as of glass or polished metal. If the reflecting surface be perforated in the centre, as in the concave-glass mirror generally used for that purpose, a more satisfactory view of the membrana tympani can be had.

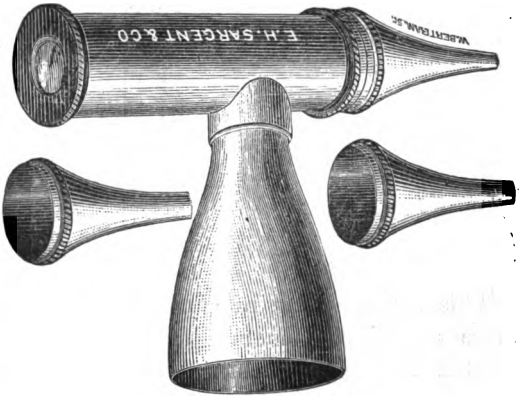
Digitized by Google



CONCAVE MIRROR WITH HEAD-BAND.

An otoscope constructed on the principle of the endoscope, but with shorter speculum, gives a still better view of the membrane, which can be magnified by a lens properly adjusted.

CONICAL SPECULA.



OTOSCOPE.

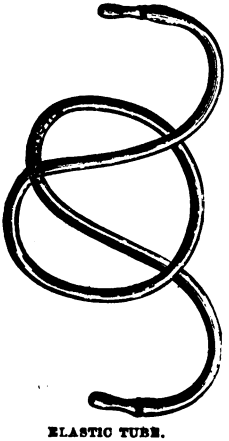
The use of a conical speculum to make straighter the ex

ternal meatus, and displace hairs projecting into the meatus, in nearly all cases aids greatly. It may also be used in the anterior nares to inspect the nasal cavity.

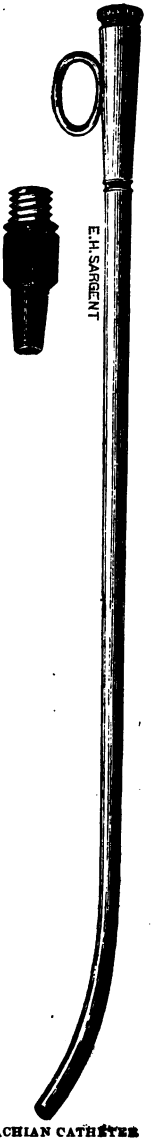
TUNING FORK.

The ordinary tuning fork of musicians is important in diagnosis, as a reliable means of determining between affections of the conducting and of the perceptive apparatus, and in determining the condition of the Eustachian tubes. It may sometimes be used as an aid in exercising greatly impaired hearing. Some modifications of this fork have been devised for special investigations.

The Eustachian catheter, preferably made of pure silver, is the most direct and the most effectual means of communicating with the Eustachian tube and with the middle ear, where no perforation of the membrana tympani exists, for examination, cleansing and medication of those parts. Its use is rendered more reliable when an elastic tube is used to connect the ear of the examiner with the ear of the patient, as the sound of air passed through the Eustachian catheter and Eustachian tube into the middle ear of the patient can readily be recognized by the examiner, just as the stethoscope conveys the sounds of the chest to him.

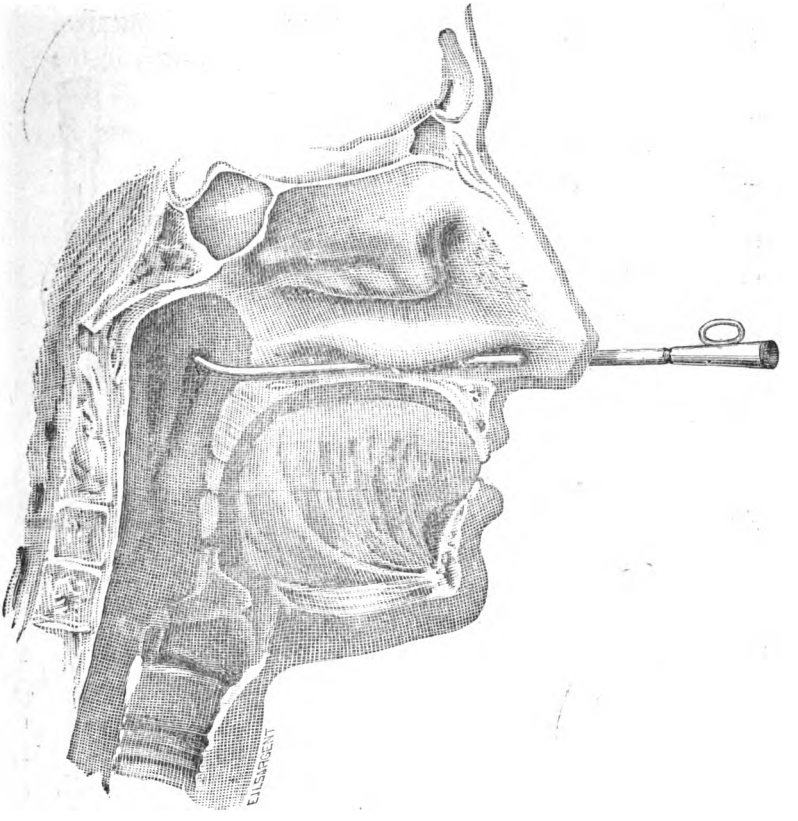


ELASTIC TUBE.



EUSTACHIAN CATHETER

Digitized by Google



SHOWING INTRODUCTION OF THE EUSTACHIAN CATHETER.

A rubber bag—similar, but smaller than the one suggested

INHALER AND VALVE BULB.

by Politzer—for inflating the Eustachian tubes and middle ear, is needed both for examination of the ear and for treatment of many of its diseases. The larger one of Politzer exerts more pressure, at times, upon an unaffected ear than can be done with safety, and it possesses no compensating advantage.

Eustachian bougies are inefficient, and their use is painful and unsafe.

Digitized by Google

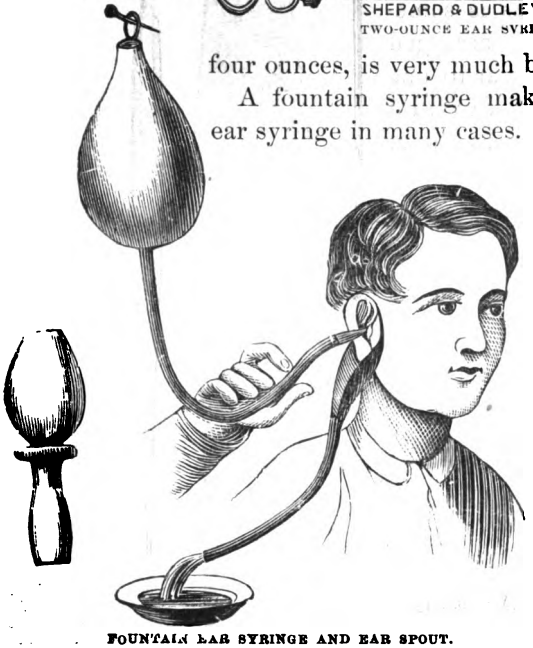
A pneumatic speculum, devised by Sigle, for exhausting air from the external meatus whilst the membrana tympani is inspected through the glass end of the speculum, is of occasional service in examinations of the ear, and sometimes is used to sever adhesions between the membrana tympani and the promotory, or other points in the middle ear. The rhinoscope is of limited use for examination and treatment.

SIGLE'S PNEUMATIC SPECULA.

For the treatment of affections of the ear the ordinary small glass or rubber syringe are almost valueless. A hard rubber or metal syringe, capable of holding from two to four ounces, is very much better.

SHEPARD & DUDLEY
TWO-OUNCE EAR SYRINGE.

A fountain syringe makes a very good ear syringe in many cases. The more continuous stream that can be used with it is not only more agreeable to the patient, but more efficacious, as is also that from a fountain syringe.



FOUNTAIN EAR SYRINGE AND EAR SPOUT.

A pair of angular forceps for removing foreign substances or morbid growths.

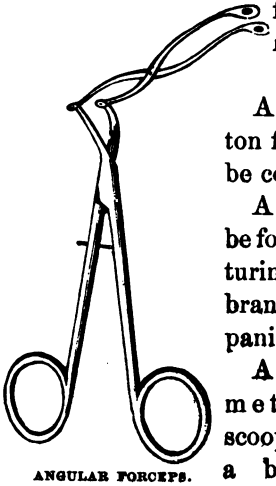
Digitized by Google

from the external meatus or the exposed middle ear, and a small cotton-holder, for cleansing the ear are important.

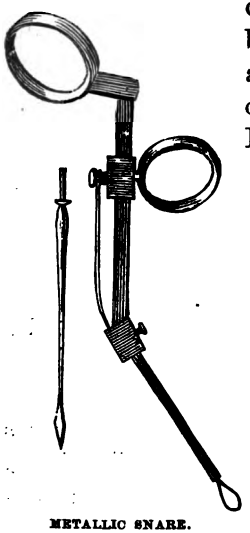
A pair of strong forceps for removing cotton from the cotton-holder will be found to be convenient.

A curved paracentesis knife will be found most convenient for puncturing the membrana tympani.

A small metallic scoop, with a blunt hook attached, is an aid in removing foreign substances from the meatus, as is sometimes a properly arranged metallic snare, similar to one devised by Wilde, and another by Blake.

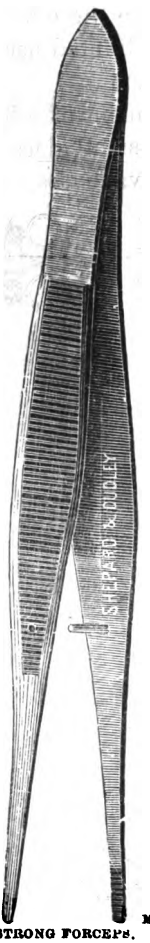


ANGULAR FORCEPS.



METALLIC SNARE.

COTTON-HOLDER.

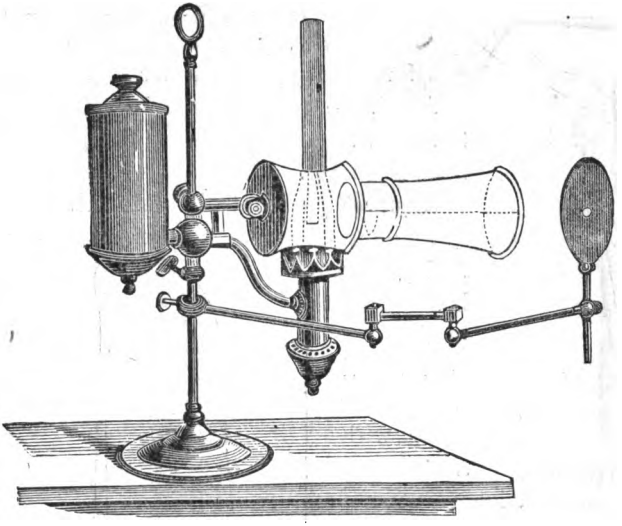


STRONG FORCEPS.

METALLIC SCOOP.

PARACENTESIS KNIFE.

Digitized by Google

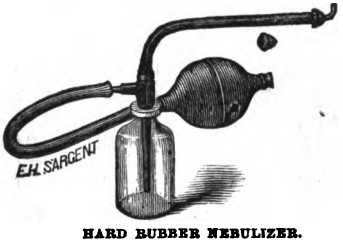


TOBOLD'S ILLUMINATOR.

Tobold's illuminator affords a good artificial light for use where daylight is not available.

STEAM ATOMIZER.

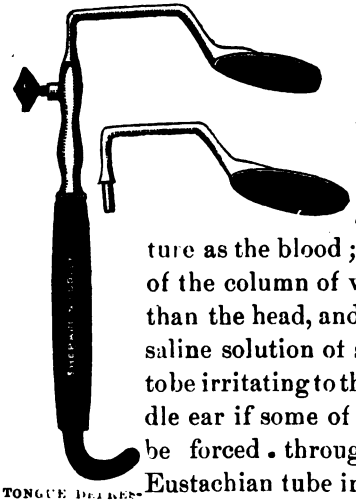
A steam atomizer for inhalation of medicated solutions, and a hard-rubber nebulizer for applications to the pharynx, are useful in the treatment of catarrhal inflammation of the naso-pharyngeal space, which so often accompanies inflammation of the Eustachian tubes and middle ear.



HARD RUBBER NEBULIZER.

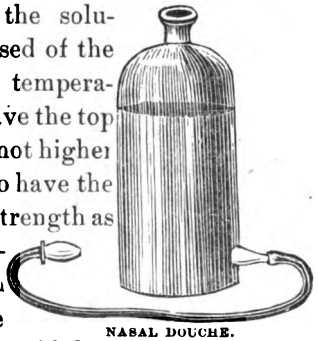
The application of medicated spray to the pharynx by means of a hard rubber nebulizer is more agreeable to a patient than wiping the parts with a sponge and probang. The use of a tongue depressor facilitates the application in many cases.

Digitized by Google



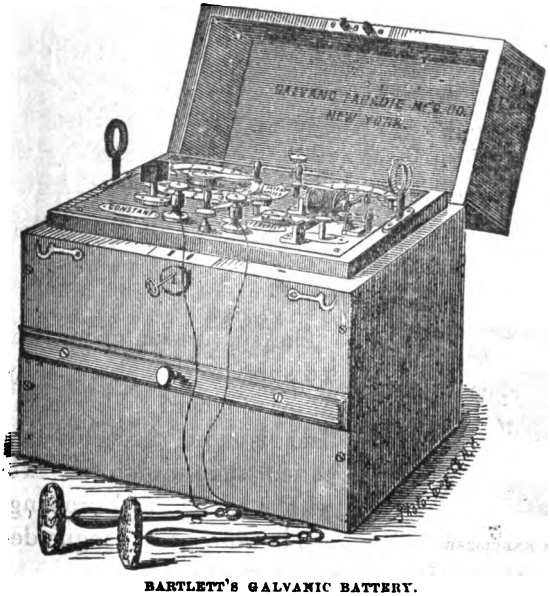
TONGUE DEPRESSOR.

In certain conditions the nasal douche may be used with advantage and with comparative safety, provided precaution be taken to have the solution used of the same temperature as the blood; to have the top of the column of water not higher than the head, and not to have the saline solution of such strength as to be irritating to the middle ear if some of it should be forced through the Eustachian tube into the middle ear.



NASAL DOUCHE.

ANTERIOR NARES SYRINGE.



BARTLETT'S GALVANIC BATTERY.

A galvanic battery of twelve or twenty-four cells, such as Bartlett's, is as convenient as any for use on the ear, and is serviceable in the treatment of defective nutrition of the conducting apparatus.

Digitized by Google

In classification of the diseases of the ear, they may in a comprehensive way be regarded as either inflammatory processes or their results and be grouped into two classes, the suppurative and non-suppurative inflammations. Each in its way is generally serious, but the gravity of the case will be dependent both on the seat of the inflammation, and its degree, as well as upon other collateral considerations, as the nature and amount of structural change and the period of its duration.

Inflammations of the external ear are generally of a suppurative character, which may be either circumscribed or diffuse, and whilst they are at times as painful as any other affections of the ear, they are not usually so dangerous to the integrity of the organ, nor so likely to result in permanent impairment of hearing as some other diseases. Ear-ache is usually a consequence of an acute or sub-acute inflammation of either the middle or external ear. It is seldom simply neuralgia.

Careful inspection of the parts, to determine the exact seat and extent, is the first important step in the treatment of inflammation of the external meatus. Then free incision to the periosteum will not only lessen the great tension of the part, and with it the pain, but the accompanying hemorrhage will afford additional relief, either in diffuse or circumscribed inflammation. This bleeding can be further increased by the application of leeches to the tragus. Afterwards free syringing of the meatus with tepid water, or fomentation for a time with tepid water, aids in controlling the inflammation. The practice of applying poultices continuously for days to the inflamed parts is to be deprecated, as they macerate the tissues, predispose to excessive granulations, and sometimes in a very few days develop polypus. Thorough removal of secretion from the meatus is important. After the most acute symptoms have passed, the use of a solution of borax, ten to twenty grains to an ounce of water, with from two to five grains of carbolic acid added, or the substitution of from two to five grains of sulphate of zinc for the borax, will be serviceable. Very stimu-

Digitized by Google

lating applications to the external meatus are apt to be followed by a succession of boils.

Where an inanimate foreign substance has entered the meatus and remains imbedded between the angle of the meatus and the membrana tympani, more harm is likely to be done by an unskillful effort to remove it than by allowing it to remain until by proper means it can be safely extracted. The meatus shows great tolerance of foreign bodies at rest, but violent attempts to dislodge such substances generally produce suppuration of the meatus. The life of any animate object that has entered the meatus should be destroyed at once by the instillation of warm water, thus drowning it, when it can be easily removed.

Retention of pus in the meatus for any considerable time, whatever its origin, is not only likely to be followed by the development of polypus, but it macerates the membrana tympani, and perf ration of that membrane is almost sure to occur. Aspergillus, in its various forms, is one of the most frequent causes of often-recurring discharges, which can only be completely removed by destroying this parasitic growth, which resembles mold on bread. Primary affections of the membrane of the drum are not of frequent occurrence, and that membrane is so protected from direct mechanical violence that traumatic injuries are but rarely received. In many cases where explosions, as of cannon, &c., are supposed to have ruptured the drum-head, with impairment of hearing or total deafness following, examination generally shows some other seat of injury of more serious character, most frequently in the nervous apparatus. A simple uncomplicated rupture of the membrane from such an explosion, when it does occur, is generally a straight rent that unites by first intention, within a few days, and in a fortnight leaves scarcely any evidence of the seat of the injury. Uusually the only treatment required is to guard against having the lacerated edges separated by forcing air through the artificial openings by inflating the Eustachian tubes, as in blowing the nose.

Digitized by Google

Openings through the membrane of the drum, whether they occur spontaneously, as in the escape of discharge from the middle ear, or from violence, or by puncture made designedly or by accident, usually heal readily and speedily, where there is not great loss of substance, or continual discharge seeking escape through such opening. Great impairment of hearing does not generally result from such opening contrary to what is almost universally believed. Such opening at times improves hearing, frequently prevents loss of substance of the drum membrane in suppuration, and at times saves life. The middle ear, in consequence of its structure and position, is far more frequently affected than either the external or internal ear.

The suppurative form of inflammation is more dangerous to the integrity of it, and to life, whilst the non-suppurative form produces more permanent impairment of hearing. The difference between acute catarrhal inflammation and acute suppurative inflammation of that part seems to be one chiefly of severity and duration, for if the catarrhal be not checked in its earliest stages, it usually ends in suppuration. It is in these cases, when they occur in children, that the changes occur which make many children deaf and consequently mute, for deaf-muteism is more frequently acquired than congenital, notwithstanding that unreliable statistics tend to show the reverse to be the case. Since it is so much easier to prevent than to remedy, it is here that our efforts should be made to guard against that condition which makes the sufferers such objects of sympathy—such a burden to society. The eruptive diseases are a prolific source of these troubles, and should receive more attention, with a view to avert these evil results. It is in the acute stage of this inflammation that the most marked evidence is shown of the result of treatment. It matters little what the cause may be which produced it—and there are many—when inspection shows a red, bulging membrane of the drum, with inflammation of the fauces, and deep-seated pain in the ear, which is increased by the act of swallowing, active treatment is indicated at once.

In addition to anodynes to relieve the pain, which some-

Digitized by Google

times is excessive, local abstraction of blood by leeches from the tragus; saline aperients, stimulating pediluvia or hot baths, and puncture of the drum-membrane are indicated.

Such course will generally abort the attack, and then by keeping the Eustachian tubes open to give exit to the hypersecretion, the most immediate danger is past, and only mildly stimulating treatment of the mucous membrane will be required for a fortnight longer; but unless this be relieved entirely, subsequent exposure is likely to produce periodical aggravations which are the source of great trouble at a later date.

Where this acute inflammation is not controlled in its early stage, either from neglect or improper treatment, and pus forms and makes a spontaneous opening through the drum-membrane for its escape, the case is more serious. When the perforation has once occurred and pressure within the tympanum has been partially relieved, the danger to the brain is less, but the case will require careful treatment to prevent chronic suppurative inflammation, with its train of evil consequences, such as loss of hearing, polypi, pyæmia, cerebral abscess, paralysis, mastoid disease, caries of the temporal bone, and even death. How strange, then, that in the light of the present day, the advice is yet constantly given to patients by physicians to let their ears alone when in this condition; and it is even asserted that it is dangerous to stop the discharge which is rendering them loathsome to themselves and to their friends.

It cannot be too often or too positively repeated, that since the discharge is not a disease but a consequence of disease, there can be no danger in removing the disease—the inflammation—which is producing that discharge as its consequence, and with it, often, fetid odor.

Among the most dangerous cases of suppuration, prior to perforation, are those which have been preceded by non-suppurative inflammation of the middle ear, that has left the drum membrane thicker and more unyielding to the pressure from within, thus increasing the danger to the brain, when there is acute aggravation of the inflammation.

Digitized by Google

The consequences of neglected suppuration, as shown, must be treated as the varying nature of them will require, but the reparative process in openings in the drum membrane is sometimes very marked, after the discharge has ceased, and the tendency to repair is far greater than is generally supposed by either the public or the medical profession. It is possible to have an entirely new membrane of the drum restored, where it has been lost, which is of course far preferable to supplying its place by an artificial membrane.

The affections of the middle ear that, by their insidious onward march, most endanger hearing, are non-suppurative in form, and in their progress are unattended with pain. This fact quite generally causes them to be overlooked in their early stages, and the most favorable time for the treatment of them has usually passed when they are recognized, which is too often after such change in the structure of the ear has taken place as results in impaired hearing, a feeling of fullness in the head, dullness of intellect, tinnitus aurium more or less persistent, and often great depression of spirits.

These are the cases that used to be considered progressive nervous deafness, but it is one of the more marked evidences of the progress of otology, that these cases have been eliminated from the nervous affections of the ear, and given their proper place as defects in the conducting apparatus.

The class embraces so many variations that the limits of this review preclude any detailed consideration of them.

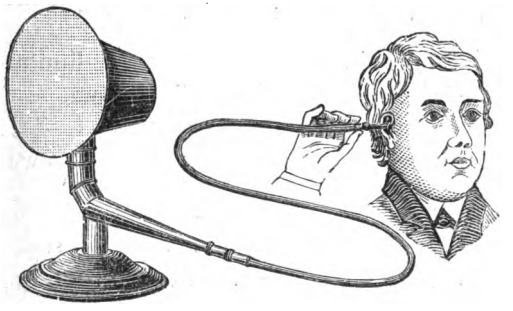
It is in this class, however, where the progress made in treatment is more gratifying, because formerly the cases were regarded as hopeless; whereas now it is known that a very large portion can be wholly or partially relieved, and that only comparatively few are beyond the reach of aid. Each individual case must determine the treatment needed for it, because of the great variety of ways in which the structural change is shown. Some of the cases require only local treatment. The mucous membrane is usually thickened, especially in the catarrhal form, and the secretions are much altered in character, and the circulation in the part is defective. For

Digitized by Google

this condition thorough cleansing of the parts, and stimulating them as with air impressed with iodine, and proper treatment of the inflamed naso-pharyngeal space, seem to be the basis of the most successful treatment. It is in these cases rather than in nervous deafness that the galvanic current promises most, by improving the nutrition.

In the proliferous form of this disease, especially where adhesions exist between the drum membrane and some point in the middle ear, the prognosis is unfavorable,—the results of treatment are less satisfactory.

Since primary affections of the perceptive apparatus, producing nervous deafness, must be regarded as hopeless, except in the most acute stages, it is fortunate that they are of so rare occurrence. Instead of hearing becoming gradually lost in these cases, as used to be believed, it is conceded that in lesions which result in nervous deafness, the attack is usually sudden and violent, and is attended with dizziness, nausea, vomiting, and unsteadiness of gait in walking, and that the loss of hearing is sudden and complete. Secondary affections of the internal ear may result from chronic inflammation of the middle ear with more gradual changes, but they must be distinguished from primary nervous lesions. For assistance in those cases



EAR TRUMPET.

CONVERSATION TUBE.

of impaired hearing where artificial aid is desired, no special form of ear-trumpet is recommended, as different ones are suited to different conditions, and as all have for their object the concentration on the drum membranae of the largest num-

Digitized by Google

ber of distinct waves of sound, the one that will best accomplish this, and produce the least local irritation of the meatus by its frequent contact, will generally be found to be the preferable instrument. Whether it be possible to magnify the waves of sound by any process similar to the refraction of rays of light by a lens, and thus aid more in hearing, is a problem yet to be definitely settled.

Where assistance in hearing is needed because of loss of the whole or a part of the drum membrane, or of one or more of the ossicles, an artificial membrane may be supplied, prefera-

ARTIFICIAL MEMBRANÆ.

bly of cotton wool, which in many cases, will improve hearing whilst worn. The same may be used to protect the exposed middle from atmospheric influences, and as a means of medicating the middle ear. When used for any purpose it is best that the artificial membrane should not be worn continously, but be changed daily.

Whether quinine administered in large doses, or when continued in moderate doses for considerable time, will produce permanent injury to the ear, and consequent impairment of the hearing, is yet an open question. It seems more probable that the condition of the system which made the taking of quinine necessary has more frequently been the cause of impairment of hearing in those cases where such defect has been attributed to the taking of that medicine. Since that drug seems to have the effect of producing hyperæmia in the ear when administered in full doses, may this effect not be positively beneficial instead of injurious, in certain cases of defective nutrition of the auditory apparatus?

A peculiarity that occurs with many persons who have impaired hearing, is that they can hear better when in the midst of loud jarring noises, or on railway trains.

A probable explanation of this fact seems to be that sounds

Digitized by Google

that would almost overwhelm a healthy, sensitive ear, are only sufficient in these cases to excite the conducting apparatus to such an extent as to perform its normal function. In a similar way the direct rays of the sun would dazzle a normal eye, but a person with a clouded cornea can look at the sun without such inconvenience, as can a healthy eye if screened by a colored body interposed.

Another unusual condition which is a subject of frequent inquiry with partially deaf persons, is a cracking or snapping noise heard in the ears when yawning or masticating food, or under other like conditions. This seems, in part, at least, to be owing to defective action of the muscles of deglutition, which influence the opening and closing of the eustachian tube, and thereby regulate the entrance of air to and its exit from the middle ear. Any irregular or spasmodic movement of these muscles may suddenly permit entrance of air into the middle ear, where previous rarification of the air already within had caused the membrane of the drum to have been rendered unnaturally concave, and it may have suddenly resumed its normal position with a sound as distinct as that sometimes heard in inflating the middle ear by the Valsalvan or Politzer's method.

Such functional derangements of the ear are not yet as well understood as are the defects of accommodation and mobility in the eye. They offer an interesting and useful field for future investigation.

Much needless apprehension is felt by persons whose kin have suffered from impairment of hearing, especially if either parent has been so affected, lest they should inherit deafness. Since deafness is not a disease, but a consequence of disease or of defect of the hearing apparatus, whereby its function is imperfectly performed, if performed at all, it is difficult to conceive of such a thing as hereditary deafness. There may be an hereditary predisposition to inflammation of the mucous membrane, which may be easily developed into disease that may result in defective hearing, just as an hereditary predisposition

Digitized by Google

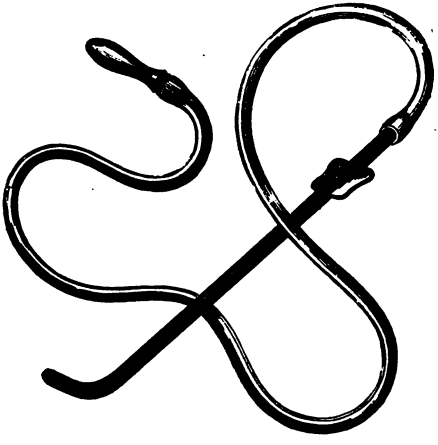
to pulmonary consumption may make one more liable to suffer from that disease, under unfavorable circumstances, than another who had not inherited such predisposition. This seems to be as near as we ever get to hereditary deafness, where one is not born with some defect in the hearing apparatus itself, in which case deafness would exist at birth, not supervene at a later date.

AUSCULTATION FOR SMALL FRAGMENTS OF STONE IN THE BLADDER.—AN INSTRUMENT FOR THE PURPOSE.

BY EDMUND ANDREWS, A. M., M. D.,

PROFESSOR OF SURGERY IN THE CHICAGO MEDICAL COLLEGE.

In the operation of Lithotrity, one of the great anxieties is to know when the work is finished; that is to determine when we have removed the last minute fragment of stone, leaving no nucleus for the accretion of another. That our examinations at this stage may be as delicate and infallible as possible, we need a searcher which will give better warning of the small bits of calculus touched by it, than those now in use. To this end I have devised the instrument shown in the cut, which, so far as I know, is new.



It is the regular ordinary searcher, so far as the external form and proportions are concerned, but instead of being solid metal, and therefore too heavy to yield a delicate touch on minute objects, it is made hollow and very light. The outer

Digitized by Google

end is prolonged about an inch beyond the handle, and inserted into a slender rubber tube, two feet in length. To this is attached a light ear piece, like those used by aural surgeons in listening to the tympanum.

In using it I insert the metallic part into the bladder, and place the ear piece in the meatus of my own ear. In this way there is a continuous column of air extending from the interior extremity of the instrument to the *membrana tympani*, and the result is that the faintest grazing of a fragment of stone on the beak of the searcher is transmitted loudly and distinctly to the surgeon's ear. The apparatus is also of great use after attacks of pain, simulating the passage of calculi down the ureters. In cases of this sort it is of great importance to search the bladder delicately and thoroughly, in order that the descended piece of stone may not remain undiscovered and become the nucleus of a large concretion.

Digitized by Google

REPORT

-OF-

THE COMMITTEE ON REVISION.

Mr. President, Ladies and Gentlemen of the Illinois State Medical Society:

Your committee, appointed at the last annual meeting, to consider the whole plan of organization and practical working of this Society, and report such recommendations for improvement as they might think proper, beg leave to state that the entire transactions of this Society since the last revision, in 1870, have been carefully examined for amendments to the Constitution and By-Laws, as well as resolutions in any way affecting the practical working of the Society, and your committee have incorporated so much of them as it thought valuable for future guidance.

The following is a synopsis of the principal changes suggested:

1. Provision for Honorary Members, to consist of members in good standing removing from the State; also, eminent members of the profession in other States, that shall be elected by a unanimous vote of the Society.

2. All Permanent Members shall have the right to vote when in attendance.

3. Committee of Arrangements to consist of five members instead of three.

4. A Committee on Gynecology, and one on Ophthalmology and Otology, added to the regular standing committees.

5. The sum of *three dollars* fixed as the annual dues.

6. Delinquent members to be retained but three years, instead of five, and not to be re-admitted without the payment

Digitized by Google

of all arrears, and a three-fourths vote of all the members present at the meeting at which they present themselves for reinstatement.

7. Substituting a *Judicial Council*, consisting of nine persons, for the Board of Censors; whose duty it shall be to take cognizance of and decide all questions of an ethical or judicial character that may arise in connection with the Society.

Several other minor changes are suggested, for which the Society is respectfully referred to the body of the report.

All of which is respectfully submitted.

[SIGNED.] T. DAVIS FITCH, R. G. BOGUE, N. S. DAVIS, E. P. COOK, } Committee.

Digitized by Google

CONSTITUTION AND BY-LAWS

OF THE

ILLINOIS STATE MEDICAL SOCIETY

REVISED MAY, 1878.

WHEREAS, The Medical Convention held in the city of Springfield in June, 1850, have declared it expedient "for the Medical Convention of the State of Illinois to institute a State Medical Society;" and,

Inasmuch as an institution so conducted as to give frequent, united and emphatic expression to the views and aims of the medical profession in this State must at all times have a beneficial influence, and supply more efficient means than has hitherto been available here for cultivating and advancing medical knowledge, for elevating the standard of medical education, for promoting the usefulness, honor and interests of the medical profession, for enlightening and directing public opinion in regard to the duties, responsibility and requirements of medical men, for exciting and encouraging emulation and concert of action in the profession, and for facilitating and fostering friendly intercourse between those who are engaged in it; therefore,

Be it Resolved, In behalf of the Medical Convention of the State of Illinois, that the members of the Medical Convention held in Springfield, June, 1850, and all others who, in pursuit of the objects above mentioned, are to unite with, or succeed them, constitute a State Medical Society; and that for the organization and management of the same, they adopt the following

REGULATIONS:

I.—TITLE OF THE SOCIETY.

This Institution shall be known and distinguished by the name and title of the "Illinois State Medical Society."

II.—MEMBERS.

The members of the Society shall collectively represent and have cognizance of the common interests of the medical profession in the State of Illinois; and shall hold their appointment to membership either as delegates from local institutions, as members by invitation, honorary members, or as permanent members.

Digitized by Google

The Delegates shall receive their appointments from permanently organized medical societies, medical colleges, hospitals, lunatic asylums, and other permanently organized medical institutions of good standing in the State of Illinois. Each delegate shall hold his appointment for one year (and until another is appointed to succeed him), and shall participate in all the business and affairs of the Society.

Each local society shall have the privilege of sending to the Society one delegate for every five of its regular resident members, and one for every additional fraction of more than half this number. The faculty of every regularly constituted medical college, or chartered school of medicine, shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital, and every other permanently organized medical institution of good standing, shall have the privilege of sending one delegate.

No individual who shall be under sentence of expulsion or suspension from any local medical society, of which he may have been a member, or whose name shall have been dropped from the rolls of the same or of this Society, for non-payment of dues, shall be received as a delegate to this Society, or be allowed any of the privileges of a member, until he shall have been relieved from the said sentence or disability by this or the said local society, and shall have paid up all arrears due said societies; nor shall any person not a member and supporter of a local medical society, when such a one exists, be eligible to membership in the Illinois State Medical Society. No one expelled from this Society shall at any time thereafter be received as a delegate or member unless by a three-fourths vote of the members present at the meeting to which he or she is sent.

The Members by Invitation shall consist of practitioners of reputable standing from any part of the United States. They shall receive their appointment by invitation of the meeting, after an introduction from any of the members present, or from any of the absent permanent members. They shall hold their connection with the Society until the close of the session at which they were received, and may participate in the discussions, without the right of voting.

Honorary Members shall consist of respected members of this Society who may remove from this State, and such distinguished members of the profession in other States as shall be elected by a unanimous vote of the Society, said members to be free from initiation fee and annual dues.

The Permanent Members shall consist of regular graduates from reputable schools of medicine, who are serving or have served in the capacity of delegates.

Permanent members shall at all times be entitled to attend the meetings and participate in the affairs of the Society, so long as they shall continue to conform to its regulations; and when not in attendance they shall be authorized to grant letters of introduction to reputable practi-

Digitized by Google

tioners of medicine residing in their vicinity who may wish to participate in the business of the meetings as members by invitation.

Every member elect, prior to the permanent organization of the annual meeting, or before voting, on any question after the meeting has been organized, must exhibit his credentials to the proper committee and sign these regulations, inscribing his name and address in full, specifying in what capacity he attends, and if a delegate, the title of the institution from which he received the appointment.

III.—MEETINGS.

The Annual Meetings of the Society shall be held on the third Tuesday in May of each year. The place of meeting shall never be the same for any two years in succession, and shall be determined for each next succeeding year by vote of the Society.

IV.—OFFICERS.

The Officers of the Society shall be a President, two Vice-Presidents, one Permanent and one Assistant Secretary, and a Treasurer.

They shall be nominated by a Special Committee of one member from each county represented at the meeting, and shall be elected by vote on a general ticket.

The term of office of the President and Vice-Presidents shall commence at the close of the meeting electing them. Each officer shall hold his appointment for one year, and until another is elected to succeed him, except the permanent Secretary, who shall hold office during the pleasure of the Society.

The President shall preside at the meetings, preserve order and decorum in debate, give a casting vote when necessary, and perform all the other duties that custom and parliamentary usage may require, and deliver an address at the meeting over which he presides.

The Vice-Presidents when called upon shall assist the President in the performance of his duties, and, during the absence, or at the request of the President, one of them shall officiate in his place.

The Permanent Secretary shall keep the records of the Society, give notice of the annual meetings, superintend the publication and distribution of the Transactions, preserve the archives of the Society, and when not able to attend any given meeting, shall furnish the Assistant with so much of the Records and papers as are necessary for the accommodation of that meeting, which, together with the proceedings of said meeting, shall be returned to him as soon as practicable after the adjournment of the same.

The Assistant-Secretary shall be appointed annually, located at the place for holding the next annual meeting. He shall aid the Permanent

Digitized by Google

Secretary in keeping the records of the Society, and constitute a member of the Committee of Arrangements.

The Treasurer shall have the immediate charge and management of the funds and property of the Society. He shall be a member of the Committee on Publication, to which Committee he shall give bonds for the safe keeping and proper use and disposal of his trust. And through the same Committee he shall present his accounts, duly authenticated, at every regular meeting. He shall report to the Publishing Committee, at the close of each annual meeting, the names of all those members who have been present at any one or more of the annual meetings during the two preceding years, or who have paid one or more annual assessments during that time, or who have reported physical disability preventing attendance at said meetings, and that only the names so reported be published in the Transactions for that year. He shall communicate each year with all the members whose names appear in the Transactions who have not paid their annual dues, and solicit payment of the same.

V.—STANDING COMMITTEES.

The following Standing Committees shall be organized at every Annual Meeting, for preparing, arranging and expediting business for each next ensuing year, and for carrying into effect the orders of the Society not otherwise assigned—namely, a Committee of Arrangements, and a Committee on Publication, the first to consist of five persons, the second of three, for the purpose of facilitating the scientific work of the Society as provided for in the Rules and Regulations. Also, the following committees, each consisting of three members, viz: a Committee on Practical Medicine, a Committee on Surgery, a Committee on Obstetrics, a Committee on Gynecology, a Committee on Ophthalmology and Otology, a Committee on Drugs and Medicines, and a Committee on Necrology.

The Committee of Arrangements shall, if no sufficient reasons prevent, be mainly composed of members residing in the place at which the Society is to hold its next Annual Meeting, and shall be required to provide suitable accommodations for the meeting, to verify and report upon the credentials of members, to receive and announce all essays and memoirs voluntarily communicated, either by members of the Society, or by others through them.

The Committee on Publication, composed of the Secretaries and Treasurer, shall have charge of preparing for the press and of publishing and distributing such of the proceedings, transactions and memoirs of the Society as may be ordered to be published. The members of this Committee who have not the management of the funds, shall also, in their own names, as agents for the Society, hold the bond of the Treasurer for the faithful execution of the duties of his office, and shall annually audit and authenticate his accounts, and present a statement of the same in the annual report of the committee, which report shall also specify the charac-

Digitized by Google

ter and cost of the publications of the Society during the year, the number of copies still at the disposal of the Society, the funds on hand for further operations, and the probable amount of the assessment to be laid on each member of the Society for the covering of its annual expenditures.

The Committee on Practical Medicine shall prepare an annual report on the more important improvements effected in the management of individual diseases, and on the progress of epidemics, referring, as occasion requires, to medical topography, and to the character of prevailing diseases in special localities in the State, during its term of service.

The Committee on Surgery shall prepare an annual report on all the important improvements in the management of surgical diseases effected during the year.

The Committee on Obstetrics shall prepare an annual report on all of the improvements in the science and art of obstetrics effected during the year.

The Committee on Gynecology shall prepare an annual report on all the important improvements in the management of diseases of women effected during the year.

The Committee on Ophthalmology and Otology shall prepare an annual report on all the important improvements in the management of diseases of the eye and ear effected during the year.

The Committee on Drugs and Medicines shall prepare an annual report on all improvements and discoveries in pharmacy and materia medica effected during the year, and on all subjects connected with the sophistication and sale of drugs and medicines.

The Committee on Necrology shall report annually brief biographical notices of deceased members, and preserve statistical and other memorial records of the Society.

VI.—FUNDS AND APPROPRIATIONS.

Funds shall be raised by the Society for meeting its current expenses and awards from year to year, but never with the view of creating a permanent income for investments. Funds may be obtained by an equal assessment upon each of the members, by individual voluntary contributions for specified objects, and the sale and disposal of publications or of works prepared for publication.

VII.

The sum of three dollars shall be assessed annually upon each delegate to the sessions of the Society, as well as upon each of its permanent members, whether attending or not, for the purpose of raising a fund to defray the necessary expenses. The payment of this sum shall be required of the delegates and members in attendance upon the sessions of the So-

Digitized by Google

ciety previously to their taking their seats and participating in the business of the session.

Permanent members not in attendance shall transmit their dues to the Treasurer.

Any permanent member who shall fail to pay his annual dues for three successive years, unless absent from the country, shall be dropped from the roll of permanent members, after having been notified by the Treasurer of the forfeiture of his membership.

VIII.—PROVISIONS FOR AMENDMENTS.

No amendment or alteration shall be made in any of these articles, except at the annual meeting next subsequent to that at which such amendment or alteration may have been proposed, and then only by the voice of three-fourths of all the members in attendance.

And in acknowledgment of having adopted the foregoing propositions, and our willingness to abide by them and use our endeavors to carry into effect the objects of this Society, as above set forth, we have hereunto affixed our names.

BY-LAWS.

The order of business at the annual meetings of the Illinois State Medical Society shall at all times be subject to the vote of three-fourths of all the members in attendance, and until permanently altered, except when for a time suspended, it shall be as follows:

ORDER OF BUSINESS.

1. Call to order by the President, and prayer.
2. Report of Committee of Arrangements.
3. Reception of Members by invitation, and reading of letters from absentees.
4. Calling lists of Standing and Special Committees, and fixing time for hearing their reports.
5. Call for voluntary papers, and fixing time for hearing.
6. Annual address of President.
7. The report of Committee of Arrangements on credentials of delegates and list of members present.
8. Selection of Committee on Nominations, on morning of second day.
9. Miscellaneous and Unfinished Business.
10. Report of Committee on Nominations, Election of officers, committees and delegates to Medical Societies, and selecting places of meeting.
11. Adjournment.

RULES OF ORDER.

1. The rules of conducting business in the Senate of the United

Digitized by Google

States shall, in all cases as far as they are applicable and not incompatible with the Constitution and By Laws of this Society, be adopted as the rules for regulating its business.

2. No member of this Society shall be permitted to speak the second time on any one subject, without the special permission of the Society.

3. Members shall be liable to censure, suspension, or expulsion for willful neglect of the rules and regulations of the same, or flagrant violations of our code of professional ethics. A vote of two-thirds of the members present shall be required to censure or suspend, and one of three-fourths to expel.

4. In case of any charges being preferred against any member which might lead to his censure, suspension, or expulsion, the Secretary shall immediately give to the accused a written copy of the charges preferred. The matter shall then lie over till the next annual meeting, when due action shall be taken thereon.

5. An initiation fee of two dollars shall be paid by every person on his becoming a permanent member.

6. No report or paper designed for the Illinois State Medical Society shall be referred to the Committee on Publication without first having been read in full, or a synopsis of the same, before the Society.

Delegates who are unable to attend the meeting of this Society to which they have been appointed are authorized to send a substitute, provided such substitute be a member of this Society.

The Committee on Publication is fully authorized to draw upon the Treasurer for the amount of money necessary to publish the Transactions of this Society.

The Committee on Nominations shall or may nominate, in addition to the regular Standing Committees, Special Committees, the duties of which shall be to report at the next Annual Meeting on such subjects as the Committee may designate or the Special Committee may select prior to nomination.

The Permanent Secretary will forward the Transactions of this Society to all of those members who shall have paid their annual assessment for the year, and to none others.

The hireling system is not compatible with the true interests of the profession, and no member of this Society shall be allowed to hire his services by the month or year to private families or individuals.

The chairmen of committees shall prepare synoptical abstracts of their reports should they cover fifteen pages or more of foolscap.

The Committee on Publication shall add all amendments to the Constitution or By-Laws, and all resolutions in any way affecting the permanent business of the Society, to the Transactions of each year.

Digitized by Google

THE PUBLICATION OF PAPERS AND REPORTS.

No report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Society, unless it be placed in the hands of the Committee on Publication on or before the first day of July. It must also be so prepared as to require no material alteration or addition at the hands of its author after presentation.

Authors of papers are required to return their proofs within two weeks after their reception, otherwise they will be passed over and omitted from the volume of transactions.

Every paper received by this Society and ordered to be published, and all plates and other means of illustration, shall be considered the exclusive property of the Society, and shall be published and sold for the exclusive benefit of the Society.

The Committee on Publication shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Society, unless especially instructed to the contrary by vote of the Society.

DUTIES OF MEMBERS.

No one shall be permitted to address the Society except he first shall have given his name and residence, which shall be distinctly announced from the chair, and the member may be required to go forward and speak from the stand, but not more than ten minutes at one time. No one appointed on a special committee who fails to report at the meeting next succeeding the one at which he is appointed, shall be continued on such committee or appointed on any other, unless a satisfactory excuse is offered.

It shall be the duty of every member of this Society who learns that any existing medical school departs from the published conditions of graduation, to report the fact at the annual meetings, and on proof of the fact such school shall be deprived of its representation in this body.

CONDITION EXCLUDING REPRESENTATION.

No local Medical Society or other organized institution shall be entitled to representation in this Society that has not adopted its Code of ethics, or that has intentionally violated or disregarded any article or clause of the same.

This Society recognizes as a "regularly organized" Medical College one that is in affiliation with the American Medical College Association.

OF THE PREVIOUS QUESTION.

When the previous question is demanded, it shall take at least ten members to second it, and when the main question is put under force of the previous question and negatived, the question shall remain under con-

Digitized by Google

sideration the same as if the previous question had not been enforced

JUDICIAL COUNCIL.

A council consisting of nine members shall be appointed by the Nominating Committee, whose duty it shall be to take cognizance of and decide all questions of an ethical or judicial character that may arise in connection with the Society. Of the nine members of the Society first appointed, the three first named on the list shall hold office one year, the second three names shall hold office two years, and the third three years.

With these exceptions the terms of office of members of the council shall be three years, three being appointed by the Nominating Committee annually.

The said council shall organize by choosing a President and Secretary, and shall keep a permanent record of its proceedings. The decisions of said council on all matters referred to it by the Society shall be final, and shall be reported to the Society at the earliest practicable moment.

All questions of a personal character, including complaints and protests, and all questions on credentials, shall be referred at once, after the report of the Committee of Arrangements or other presentation, to the *Judicial Council*, and without discussion.

Resolutions amending, repealing or adding to these By-Laws shall require a two-thirds vote of the members present.

Digitized by Google

LIST OF MEMBERS

OF THE

ILLINOIS STATE MEDICAL SOCIETY

*Indicates those who have paid their Annual Dues for the current year.

NAMES.	POSTOFFICE.	COUNTY.
Adams, J. C.	Hudson,	McLean.
Adolphus, Philip	Chicago,	Cook.
Akin, J. H.	Glassford,	Peoria.
*Albin, G. W.	Neoga,	Cumberland.
*Allen, C. C.	Mt. Sterling,	Brown.
Allen, G. T.	St. Louis, Mo.	
*Allen, J. Adams	Chicago,	Cook.
Alvis, D. H.	Kewaunee,	Henry.
*Andrews, E.	Chicago,	Cook.
Armstrong, C.	Carrollton,	Greene.
*Arnett, S. G.	Sparta,	Randolph.
Avery, S. J.	Chicago,	Cook.
Baker, L. H.	Payson,	Adams.
Bannister, H. N	Chicago,	Cook.
Bardwell, G. A.	Dixon,	Lee.
*Barger, R. N.	Hopedale,	Tazewell.
*Barnett, C. F.	Bunker Hill,	Macoupin.
*Bartlett, A. T.	Verden,	"
Barton, Ira	Raymond,	Montgomery.
Barton, J. W.	Saybrook,	McLean.
*Barton, P. H.	Danville,	Vermillion.
Baum, Z. T.	Paris,	Edgar.
Bennett, J. D.	Assumption,	Christian.
Bernhardi, C.	Rock Island,	Rock Island.
*Bevan, Thomas	Chicago,	Cook.
Birney, S. H.	Urbana,	Champaign.
*Blackman, F. H.	Geneva,	Kane.
Blalock, N. G.	Mt. Zion,	Macon.
Blanchard, E.	Minonk,	Woodford.
Bluthardt, T. J.	Chicago,	Cook.
*Boal, R.	Peoria,	Peoria.
*Bogue, R. G	Chicago,	Cook.

Digitized by Google

Names.	Postoffice.	County.
Booth, D. S.	Sparta,	Randolph.
*Boue T. N.	Loda,	Iroquois.
*Bowman, J.	Flora,	Clay.
*Bowyer. Eli	Olney,	Richland.
Breed, S. P.	Princeton,	Bureau.
Brenton, W.	Tuscola,	Douglas.
Bridge, N.	Chicago,	Cook.
Briggs, R.	Clayton,	Adams.
Brower, D. R.	Chicago,	Cook.
*Buck, H. B.	Springfield,	Sangamon.
Burbank, W. M.	Chicago,	Cook.
*Byford, W. H.	Chicago,	Cook.
*Caldwell, W. S.	Warren,	Jo Davis.
*Callaway, Geo.	Tuscola,	Douglas
*Carr, C. R.	Bloomington,	McLean.
*Casal, F. M.	Pittsfield,	Pike.
*Chaffee, C. W.	Chicago,	Cook.
*Chambers, W. M.	Charleston,	Coles.
*Chamberlin, G. M.	Chicago,	Cook.
Chapman, W. H	Peoria,	Peoria.
*Chenoweth, C.	Decatur,	Macon.
Clarke, H. N.	Niantic,	Ma on.
*Clark, Lucius	Rockford,	Winnebago.
Clark, W. E.	Chicago,	Cook.
Cochran, W. G.	Farmer City,	De Witt.
*Cole, Fred	El Paso,	Woodford.
Cole, N. B.	Bloomington,	McLean.
Cole W. C.	Lynnville,	Morgan.
*Collett, T.	Lovington,	Moultrie.
*Connelly, J. L.	Harristown,	Macon.
*Cook, E. P	Mendota,	La Salle.
Cooper, C. N.	Batavia,	Kane.
Corbus, J. R.	La Salle,	La Salle.
*Corcoran, G. L.	Brimfield,	Peoria.
Corr, A. C.	Carlinville,	Macoupin.
Corr, Lucinda H.	"	"
Cowan, R. S.	Girard,	"
Cox, G. W.	Clayton,	Adams.
*Cozad, J.	Andelusia,	Rock Island.
Craig, G. G.	Rock Island,	"
Crane, O. P.	Mason City,	Mason.
*Crawford, N. B.	Eureka,	Woodford.
Crawford, S. K.	Monmouth,	Warren.
Crist, D. O.	Bloomington,	McLean.
*Crist, H. C.	"	"

Digitized by Google

NAMES.	POSTOFFICE.	COUNTY.
*Crothers, R. W.	Delavan,	Tazewell.
*Crow, J. T.	Carrolton,	Greene.
*Crummer, B. F.	Warren,	Jo Davis.
Culbertson, S. D.	Piper City,	Ford.
Culver, B. G.	Greenfield,	Greene.
Curtis, Lester.	Chicago,	Cook.
*Curtis, J. T.	Otter Creek,	Jersey.
*Darrah, A. T.	Tolono,	Champaign.
David, C. A.	Sheridan,	La Salle.
*Davis, F. H.	Chicago,	Cook.
Davis, J. M.	Carrollton,	Greene.
*Davis, N. S.	Chicago,	Cook.
Davis, T. W.	Wapella,	De Witt.
*Davison, J. B.	Moline,	Rock Island.
Deming, H. H.	Pana,	Christian.
De Wolf, O. C.	Chicago,	Cook
Dexter, Ranson.	"	"
*Dieffenbacher, P. L.	Havana,	Mason.
*Dixon, J. N.	Springfield,	Sangamon.
Dora, J. F.	Mattoon,	Coles.
*Douglas, D. T.	Selma,	Mc Lean.
Du Hadway, C.	Jerseyville,	Jersey.
Dunn, L. D.	Tiskilwa,	Bureau.
Dyer, R. T.	Ottawa,	La Salle.
Earle, C. W.	Chicago,	Cook.
Elder, W. A.	Bloomington,	Mc Lean.
*Emmons, F. A.	Chicago,	Cook.
Engert Rosa H.	"	"
*Ensign, W. O.	New Rutland,	La Salle.
*Etheridge, J. H.	Chicago,	Cook.
*Felker, J. B.	Amboy,	Lee.
Fenn, C. T.	Chicago.	Cook.
Filley, H. R.	Brimfield,	Peoria.
*Fink, J. W.	Hillsboro,	Montgomery.
Fisher, A.	Chicago,	Cook.
Fisher, C.	Jacksonville,	Morgan.
Fisher, J. B.	Chicago,	Cook.
Fisher, T. D.	Leroy,	Mc Lean.
Fitch, C. M.	Chicago,	Cook.
*Fitch, T. D.	"	"
*Fitch, W. H.	Rockford,	Winnebago.
Foot, D. E.	Belvidere,	Boone.
*Foster, A. H.	Chicago,	Cook.
*Frawley, M. A.	Springfield,	Sangamon.
*Frazier, J. V.	Viola,	Mercer.

Digitized by Google

Names.	Postoffice.	County.
Fugate, J. T.	Urbana,	Champaign.
*Galt, Thos.	Rock Island,	Rock Island.
Garretson, P. H.	Macomb,	Mc Donough.
Garrott, E.	Chicago,	Cook.
Gaylord, E.	Magnolia,	Putnam.
Gill, C. J.	Oak Grove,	Mc Lean.
*Gill, H. Z.	Jerseyville,	Jersey.
*Gilliland W. E.	Coatsbury,	Adams.
*Goodbrake, C.	Clinton,	De Witt.
*Goodell, W. L.	Effingham,	Effingham.
*Goodwin, A. E.	Rockford,	Winnebago.
Goodwin, W. M.	Urbana,	Champaign.
*Graham, D. W.	Chicago,	Cook.
Gray, E. W.	Bloomington,	Mc Lean.
Gregg, P.	Rock Island,	Rock Island.
*Gregory, J.	Farmington,	Fulton.
*Griffith, B. M.	Springfield,	Sangamon.
*Gunn, Moses	Chicago,	Cook.
Haering, T. T.	Bloomington,	Mc Lean.
Hall, R. S.	Chicago,	Cook.
*Haller, F. B.	Vandalia,	Fayette.
Hammill, R. C.	Chicago,	Cook.
Hamilton, J. B.	Kane,	Greene.
Hamilton, J. L.	Peoria,	Peoria.
*Hamilton, J. O.	Jerseyville,	Jersey.
*Hard, A.	Aurora,	Kane.
Harris, W. J.	Piasa,	Macoupin.
*Harvey, J. G.	Grove City,	Christian.
*Haskell, W. A.	Alcon,	Madison.
*Hatch, H.	New Salem,	Pike.
Hayes, J. L.	Paris,	Edgar.
Hayes, P. S.	Chicago,	Cook.
Hempstead, C. W.	"	"
*Hermon, P. J.	Raymond,	Montgomery.
*Herriott, E. L.	Grafton,	Jersey.
Hess, T. M.	Homer,	Champaign.
Hewitt, G. W.	Franklin Grove	Lee.
Higgins, R. T.	Vandalia,	Fayette.
Hill, Wm.	Bloomington,	Mc Lean.
Holderness, E.	Chenoa,	"
*Hollister, J. H.	Chicago,	Cook.
*Holmes, E. L.	"	"
Hooper, H.	"	"
Hotz, F. C.	"	"
Howard, H. C.	Champaign,	Champaign.

Digitized by Google

Names.	Postoffice.	County.
Huddleston, R. H.	Champaign,	Champaign.
*Hunt, C. C.	Dixon,	Lee.
Hurd, H. S.	Galesburg,	Knox.
*Hurlburt, V. L.	Chicago,	Cook.
*Hurst, M.	Sweet Water,	Menard.
Hurst, N. N.	Chicago,	Cook.
Hutchinson, J. M.	"	"
Hyde, J. N.	"	"
*Ingalls, E.	"	"
Ingalls, E. F.	"	"
*Isham, R. N.	"	"
*Ingersoll, Ellen A.	Canton,	Fulton.
*Jackson, A. R.	Chicago,	Cook.
Jacobson, S. D.	"	"
*Jenks, D. S.	Plano,	Kendall.
*Jewell, J. S.	Chicago,	Cook.
*Johnson, C. B.	Tolono,	Champaign.
*Johnson, H. A.	Chicago,	Cook.
*Johnson, J. Perrin	Peoria,	Peoria.
*Johnson, W. M.	Johnsville,	Wayne.
Johnson, J. P.	Jacksonville,	Morgan.
*Jones, G. W.	Danville,	Vermillion.
Jones, H. K.	Jacksonville,	Morgan.
Jones, H. W.	Chicago,	Cook.
*Jones J. R.	LaMoille,	Bureau.
*Jones, S. J.	Chicago,	Cook.
*Kaull, W. M.	Princeton,	Bureau.
*Kendall, H. W.	Quincy,	Adams.
Kent, A. P	Chicago,	Cook.
*Kerr, S. L.	El Paso,	Woodford.
*Kilgore, J. C.	Monmouth,	Warren.
Kimber, A. C.	Waverly,	Morgan.
*Kinnear, A. H.	Metamora,	Woodford.
*Kirk, W. T.	Atlanta,	Logan.
Kitchen, J L.	Wyanett,	Bureau.
Knox, W. A.	Chicago,	Cook.
*Krantz, E. A.	Champaign,	Champaign.
Lamme, D. W.	El Paso,	Woodford.
*Lane, I. R.	Chesterfield,	Macoupin.
Lee, E. W.	Chicago,	Cook.
*Leeds, L. L.	Lincoln,	Logan.
Leonard, R. L.	Chicago,	Cook.
Lester, J. B.	Oswego,	Kendall.
Lichtenberger, C. T	Eureka,	Woodford.
*Litchty, D.	Rochelle,	Ogle.

Digitized by Google

Names.	Postoffice.	County.
Little, Jehu	Bloomington.	McLean.
*Littlefield, H. H.	Beardstown,	Cass.
*Lord, F. H.	Plano,	Kendall.
*Lord, R. S.	Springfield,	Sangamon.
Lovewell, C. H.	Englewood,	Cook.
*Lucas, B. C. K.	Peoria,	Peoria.
Luce, A. H.	Bloomington,	McLean.
Luce, H. C.	"	"
Lyford, W. H.	Port Byron,	Rock Island.
Lyman, W. C.	Chicago,	Cook.
*McClelland, M. A.	Knoxville,	Knox.
McClure, D. P.	Rantoul,	Champaign.
McDonald, P. S.	Chic go,	Cook.
*McFarland, A.	Jacksonville,	Morgan.
*McKinney, J. G.	Barry,	Pike.
M Kowan, J. M.	Arcola,	Douglass.
*McLean, Jno.	Genoa,	DeKalb.
*McMann, W. W.	Gardner,	Grundy.
*McNary, W. H.	Martinville,	Clark.
McVey, R. E.	Waverly,	Morgan.
*McWilliams, S. A.	Chicago,	Cook.
Mandeville, J. D.	Philo,	Champaign.
Marguerat, J. D	Chicago,	Cook.
Marshall, F. D.	"	"
*Martin, H.	Canton,	Fulton.
Massie, Wm	Paris,	Edgar.
*Matthews, F. L.	Springfield,	Sangamon.
*Mathews, J. P.	Carlinville,	Macoupin.
Maxwell, T. J.	Biggsville,	Henderson.
*Maynard, W. J.	Chicago,	Cook.
*Merriman, H. P.	"	"
Miles, M.	Ind. University	Champaign.
*Miller, A. J.	Paris,	Edgar.
Miller, DeLaskie	Chicago,	Cook.
Miller, W. G.	Girard,	Macoupin.
*Mitchell, R. J.	Camp Point,	Adams.
*Mileham, S.	Springfield,	Sangamon.
*Million, J. L.	Leland,	La Salle.
Monroe, G. J.	Chicago,	Cook.
Montgomery, L. H.	"	"
Montgomery, W. T.	Bloomington,	Mc Lean.
*Moore, D. O.	Braceville,	Grundy.
*Moore, O. W.	Prophetstown,	Whiteside.
Mosher, J. H.	Petersburg,	Menard.
*Myers, J. T	Keewanee,	Henry.

Digitized by Google

Nance, H.	Chicago,	Cook.
Nelson, D. T.	Petersburg,	Mernard.
*Newcomer, J. W.	Peoria,	Peoria.
Niglas, J. N.	Lincoln,	Logan.
*Norred, C. H.	Saybrook,	McLean.
Orner, C. T.	Chicago,	Cook.
*Owens, J. E.	"	"
Paoli, G. C.	"	"
*Park Roswell	Bloomington,	Mc Lean.
*Parke, C. R.	Beardstown,	Cass.
*Parker, C. E.	Chicago,	Cook.
Parker, C. T	"	"
Parsons, W. M.	Curran,	Sangamon.
Patterson, N.	Elsworth,	Mc Lean.
*Patterson, R. J.	Batavia,	Kane.
Pearman, R. J.	Champaign,	Champaign.
*Peirce, W. P.	Lemont,	Cook.
Penniman, A. B.	Woodburn,	Macoupin.
*Pitner, T. J.	Jacksonville,	Morgan.
Plummer, S. C.	Rock Island,	Rock Island.
Pollock, W. L.	Heyworth,	Mc Lean.
*Polk, L. J.	Arcola,	Douglas.
Pope, C. F.	Thomasboro',	Champaign.
Powell, E.	Chicago,	Cook.
*Prince, D.	Jacksonville,	Morgan.
Quine, W. E.	Chicago,	Cook.
Ralston, W. H.	Normal,	Mc Lean.
Rauch, J. H.	Chicago,	Cook.
Rankin, A. C.	Loda,	Iroquois.
*Ransom, W. L.	Roscoe,	Winnebago.
*Reaburn, J. J.	Denver,	Hancock.
Reece, W.	Abingdon,	Knox.
*Read, N. S.	Chandlerville,	Cass.
Reed, W. L	Cero Gordo,	Piat.
Reeder, I. H.	Lacon,	Marshall.
Reynolds, A.	El Paso,	Woodford.
Richardson, A. W.	Ohio,	Bureau.
*Richey, S. O	Chicago,	Cook.
Robbins, M. M.	Aurora,	Kane.
Robinson, F. C	Wyanet,	Bureau.
Rockwell, C. V.	Taylorville,	Christian.
Rood, J. B.	Lemont,	Cook.
Roskotten, R.	Peoria,	Peoria.
Ross. J. C.	Lincoln,	Logan.
Ross, J. P	Chicago,	Cook.
*Saunders, R. A.	Galesburg,	Knox.

Digitized by Google

*Seamen, M. W.	Shipman,	Macoupin.
Secrist, C.	Watseka,	Iroquois.
Seeley, T. P.	Chicago,	Cook.
*Sibley, C. W	Fairfield,	Wayne.
*Simon, C. B.	Chicago,	Cook.
Simmons, C. J.	"	"
Skinner, B. H.	Merritt,	Scott.
Skinner, J. T.	Peoria,	Peoria.
Shaw, Eliza A.	Bloomington,	McLean.
Slater, L. B.	Taylorville,	Christian.
Smith. C. G.	Chicago,	Cook.
Sparling, W. H	Moweaqua,	Shelby.
Spear, J. W.	Mason City,	Mason.
*Steele, A. F.	Ashmore,	Coles.
*Steele, D. A. K.	Chicago,	Cook.
*Steele, J. M.	Grandview,	Edgar.
Stevenson, Sarah H.	Chicago,	Cook.
Stewart, T. N.	Riggstown,	Scott.
Stillians, D. C.	Chicago,	Cook.
*Shwisher, E.	Canton,	Fulton.
*Tagart, A .H.	Chicago,	Cook.
Taylor, C. S.	Rockton,	Winnebago.
Thomas, J. F	Princeton,	Bureau.
Thompson, Mary H.	Chicago,	Cook.
Thompson, L. G.	Lacon,	Marshall.
*Todd, J. F.	Galva,	Henry.
Tope, J. W.	Mount Clare,	Cook.
*Townsend, J.	Springfield,	Sangamo
Travers, E. R.	Amboy,	Lee.
Truesdale, C.	Rock Island,	Rock Island.
Tyree, W. A.	Wapella,	De Witt.
Van Dyde, J.	Ashmore,	Coles.
*Van Horn, A. K.	Jerseyville,	Jersey.
*Veatch, W. H	Rood H	Green.
Vosburg, D. M.	Earlville,	La Salle.
*Walker, J. P.	Mason City,	Mason.
Walker, J. R.	Cutler,	Perry.
Walton, Jane E	Chicago,	Cook.
Walton, M. W.	Ridott,	Stephenson.
Ware, Lyman.	Chicago,	Cook.
*Washburn, T. D.	Hillsboro,	Montgomery.
Waters, J. W.	Lexington,	Mc Lean.
Webster, J. C,	Chicago,	Cook.
*Webster, J. R.	Monmouth,	Warren.
*Wells, Ira R.	Geneseo,	Henry.
Wenger, E.	Gillman,	Iroquois.

Digitized by Google

West, J. M	Springfield,	Sangamon.
Whitcomb, A. L	Onarga,	Iroquios.
*White, J. L.	Springfield,	Sangamon.
*Whitney, J. D.	Oakford,	Marnard.
*Whitmire, J. S	Metamore,	Woodford.
*Whitmire, J. W.	Metamore,	Woodford.
*Whitten, F. J.	Irving,	Montgomery.
*Wilbur, C. F.	Lincoln,	Logan.
Wilder, E. P. B.	Chicago,	Cook.
*Willard, E. R.	Chicago,	Cook.
Wilder, F. M.	Wilmington.	Will.
*Willard, G. E.	Chicago,	Cook.
*Williams, J. S	Otterville,	Edgar.
Williams, L. R.	Chicago,	Cook.
*Wilson, R. M.	Lincoln,	Logan.
Wing, E. D.	Jacksonville,	Morgan.
Winney, C.	Sandwich,	De Kalb.
Wood, D. L	Streator,	La Salle.
*Worrell, F. F.	Bloomington,	McLean.
*Wright, J.	Clinton,	De Witt.
*Wright, N	Chatam	Sangamon.
*Young, H. B.	Monmouth,	Warren.

Total number of members, 374,

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

UNIV. OF MICH.
AUG 16 1900

Digitized by Google

Digitized by Google